

5 Series



Owner's Handbook





BMW AG

518i/touring
520i/touring
525i/touring
525iX/touring
530i/touring
540i/touring
525td/touring
525tds/touring

In the interests of continuing technical development, we reserve the right to modify designs, equipment and accessories.

Dimensions, weights and performance data quoted in this handbook are to the tolerances laid down by the German Institute for Industrial Standards (DIN). National-market versions may differ from those described here.

Fuel consumption data are according to the values available at the time of closing for press.

Therefore, no claims based on data, statements, illustrations or descriptions in this handbook will be entertained. Errors and omissions excepted.

Please note that this owner's handbook also describes all additional equipment features as far as these are relevant to correct operation.

All equipment marked with an asterisk (*) is specification-related and only included as standard on certain models or national-market versions, or is available as a special equipment feature or special accessory.

Any discrepancies between your BMW and the details given here may be due to the equipment specification offered on a particular model or the items ordered with the car.

For a description of special equipment items not included in this handbook, refer to the installation or operating instructions provided. The BMW Service Organisation will be pleased to help in cases of doubt.

In the interests of operational reliability, vehicle safety and a high resale value, refrain from modifying the vehicle's specification in such a way that individual items no longer comply with the general operating permit or the model specification no longer applies.

Important information for your safety

For your own safety, use spare parts and accessories approved by BMW.

When you use accessories tested and approved by BMW and Original BMW Parts, you have the assurance that their suitability for your vehicle has been thoroughly tested by BMW. BMW bears full product responsibility for these items.

BMW cannot entertain any liability for spare parts and accessories of any kind which it has not approved.

BMW cannot test whether every product from other manufacturers can be used on a BMW safely and without risk to either the vehicle or the people it is carrying. Moreover, this guarantee cannot normally be provided by the general operating permit for the part or accessory in question, as tests cannot cover all eventualities.

Original BMW Parts, BMW Accessories and other products approved by BMW, together with experienced advice on using these items, are available from your BMW Service workshop.

Congratulations on your choice of a BMW.

The better you are acquainted with your car, the easier you will discover driving to be. We therefore request you to heed the following piece of advice:

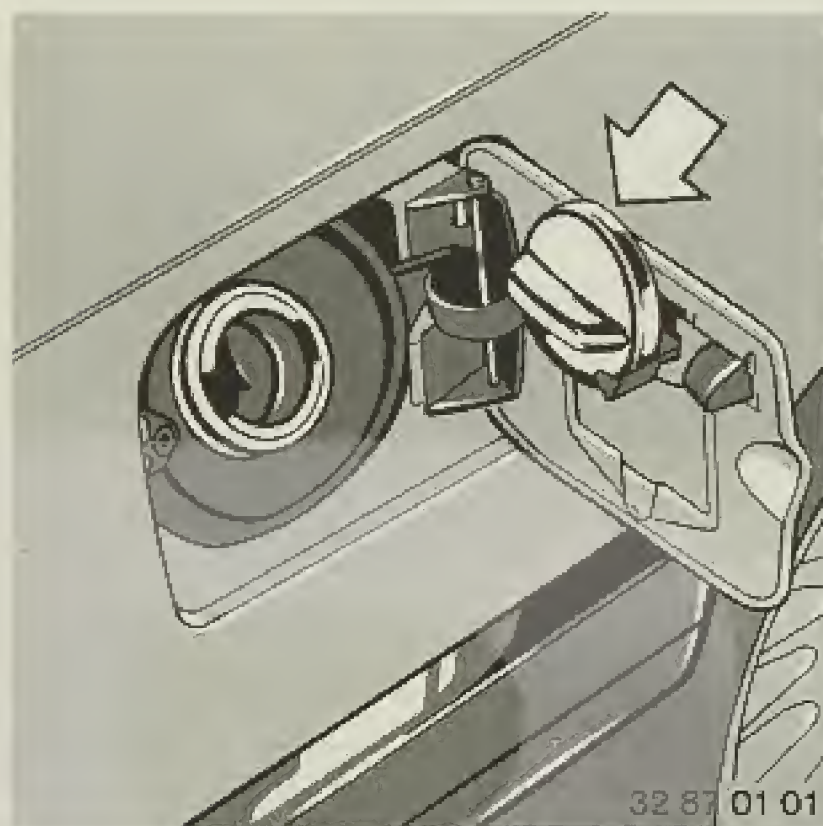
This owner's handbook contains important information on operating and looking after your BMW. Please read it carefully before setting out in your new car, so that you are fully familiar with the technical advantages of your BMW. It also contains useful information on care and maintenance, to maintain both the car's operating safety and its full resale value.

Wishing you many an enjoyable and safe journey,
BMW AG

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Adding fuel

To open the fuel filler, turn the cap counter-clockwise and take it off.

To close the fuel filler, place the cap on the filler and turn it clockwise until it engages (bayonet-type catch).

Warning:

Always observe the appropriate safety regulations when handling fuels.

Fuel grades

Catalyst-equipped cars

Unleaded premium fuel for spark-ignition engines to DIN 51 607 standard or equivalent, minimum octane number 95 (RM) (Euro Super).¹⁾

Cars without catalytic converter²⁾

Unleaded premium fuel for spark-ignition engines to DIN 51 607 standard or equivalent, minimum octane number 95 (RM) (Euro Super) or

Premium fuel for spark-ignition engines to DIN 51 600, minimum octane number 98 (RM) or premium fuel, minimum octane number 95 (RM).¹⁾

BMW 525td/tds

Diesel oil to DIN 51 601 standard.

For winter operation, see page 106.

¹⁾ These engine versions with knock control can also run on fuel with a minimum octane number of 91 (RM); performance and fuel consumption are affected as a result.

²⁾ Catalytic converter can be retrofitted.

Further checks:

see Page

- Tyre pressures (including the spare wheel), twice a month 146–148
- Engine oil level 85
- Battery acid level (add distilled water if necessary) 90
- Coolant level 88
- Brake fluid level 87
- Vehicle lights (renewing bulbs) 101
- Cleaning fluid for the windscreen, headlight and fog light washers and intensive cleaning system 89

To release the fuel filler if the central locking system fails:

- lift up the right floor mat in the luggage compartment
- take off the right section of the luggage compartment trim (quick-release fastener)
- push back the lock bar.

BMW touring

- Open the flap in the right-hand side panel of the load area
- Pull back the button with the fuel pump symbol (arrow).

See Page 9.

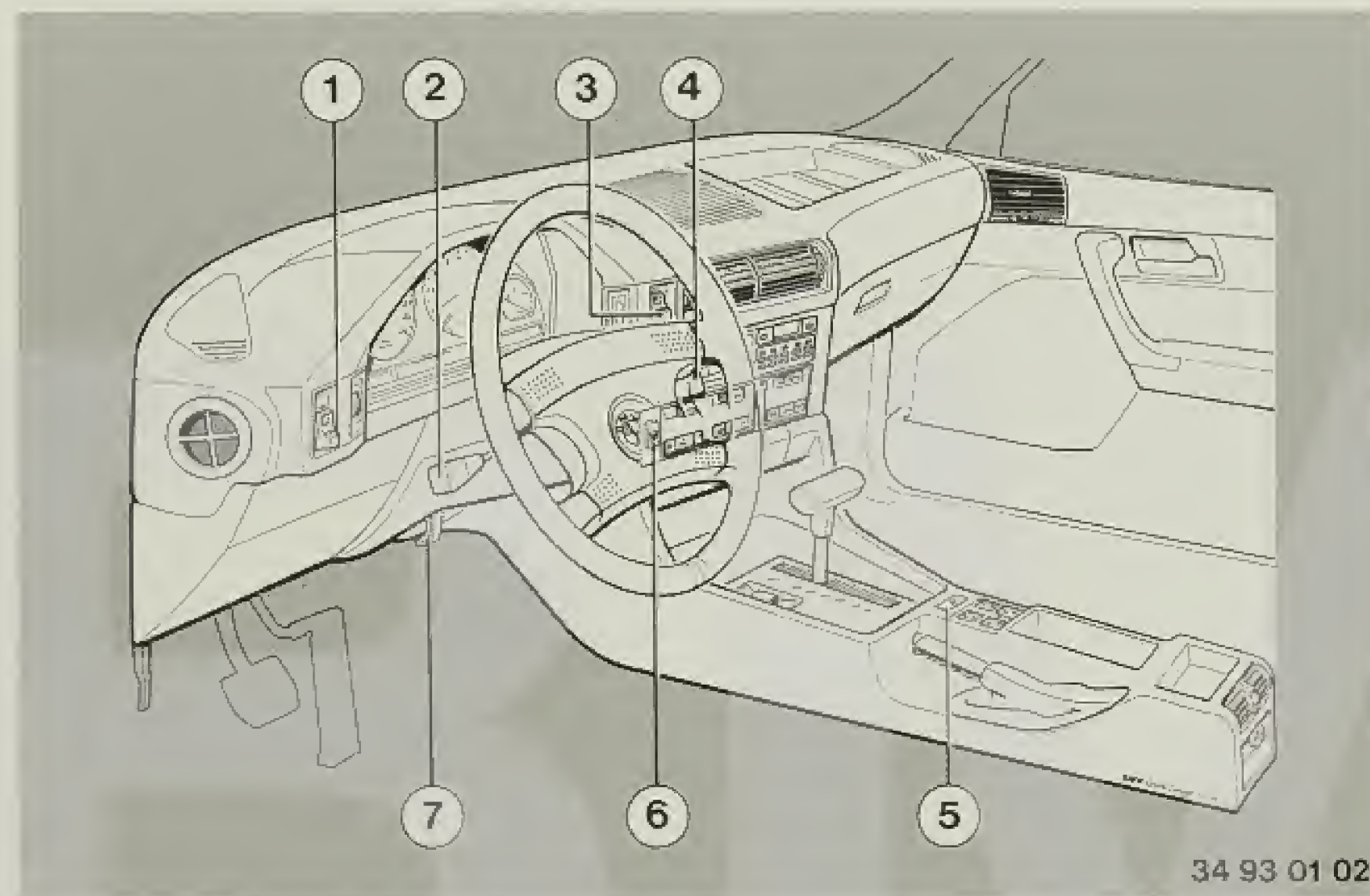
Operating instructions

Practical hints

Care of the car

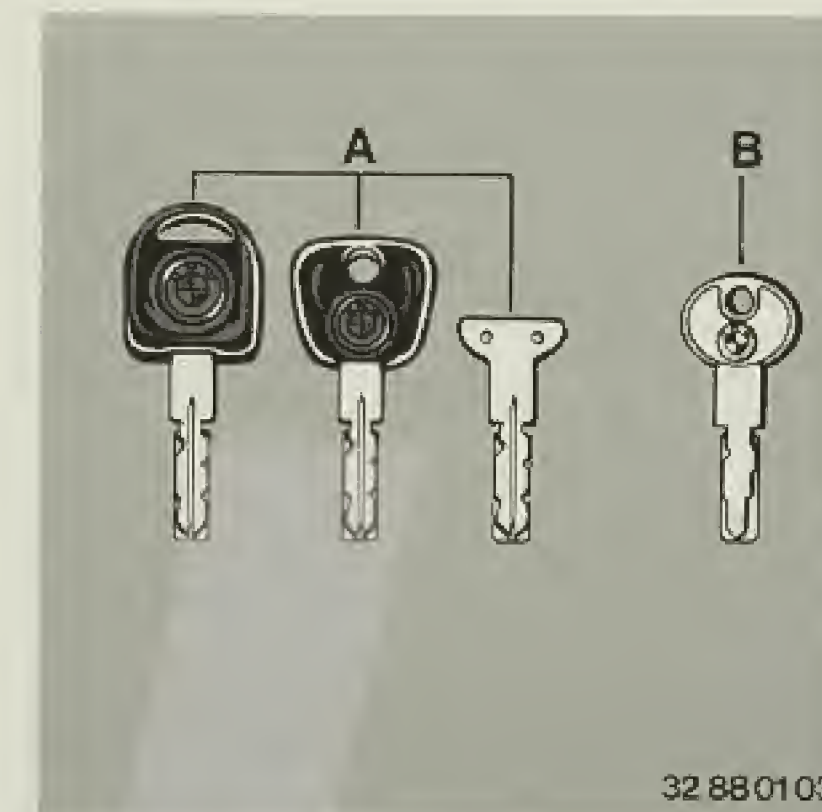
Technical data

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Main controls

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Keys

A – Master key

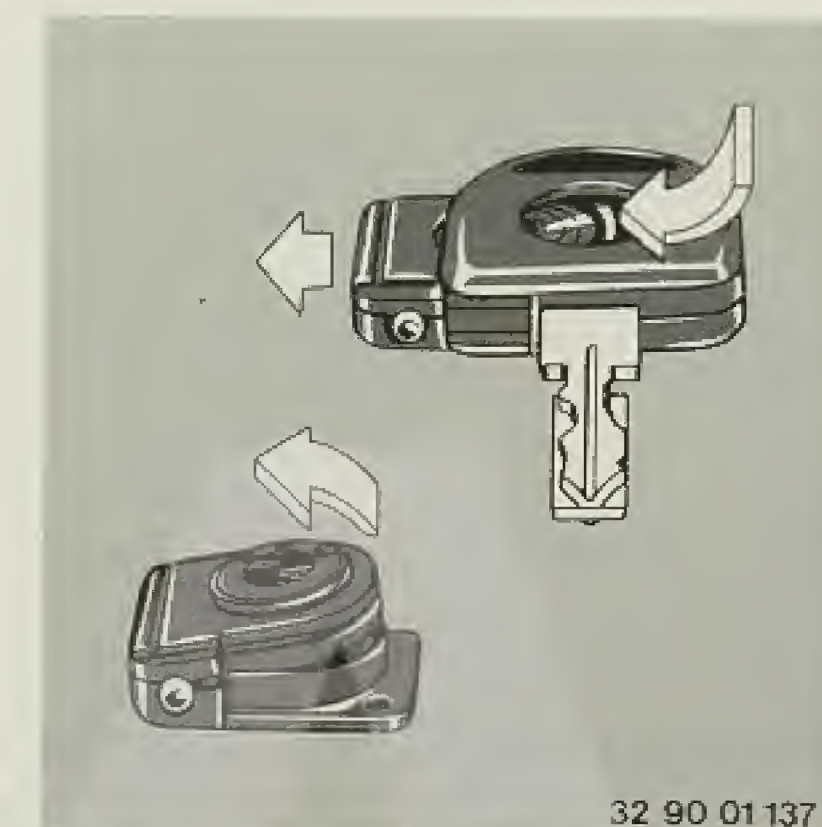
- Main key with battery and light* in key head (press BMW emblem to operate).
- Spare key*.
- Duplicate key for safe keeping, e.g. in wallet or purse.

B – Door and ignition key

Does not fit the luggage compartment or glove box locks.

Obtaining a replacement key:

The key number is on a plate supplied together with the car's keys. Please keep it in a safe place.

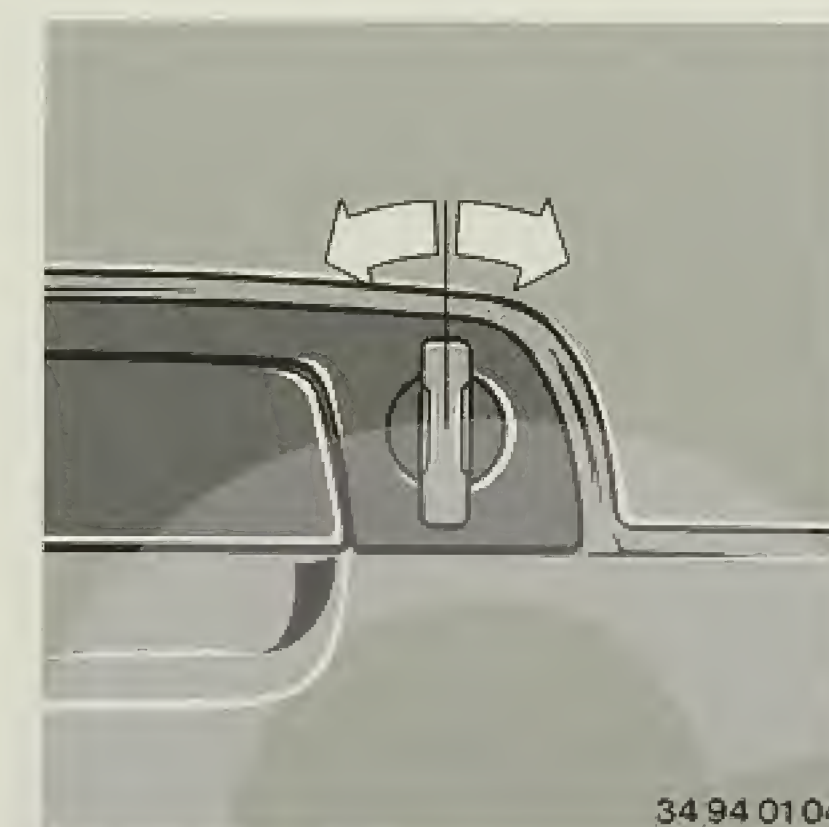


Main key with battery and light

If the light becomes dim, renew the battery in case acid begins to leak out. To change battery: see illustration.



Hand in spent batteries at a collection point for used batteries or at your BMW service station.



Central locking/ theft protection

When a door lock is operated and the driver's door is closed, the car's doors, luggage compartment and engine compartment will be locked or released. During the locking procedure the vehicle immobilizer, which is approved by car insurance companies (this can be checked locally) and the anti-theft deadlock are activated and engaged; they are released when the car is unlocked.

The key can only be withdrawn when it is positioned vertically.

Note:

On cars with anti-theft warning system*, this can **only be activated and de-activated by way of the infra-red remote control**. Open the car by inserting and turning the key when the anti-theft warning system is activated will set off the alarm.

Warning:

Whenever the car is locked from the outside, the thiefproofing device is engaged. People still in the car are then unable to unlock the doors from the inside.

Inside the car, and with the driver's door closed, the lock button on either front door can be used to lock and unlock the front doors. Pulling the door handle above the front door armrest also unlocks them.

To avoid being locked out of the car accidentally, the car cannot be locked by pressing down the lock button if the driver's door is open.

In the event of a collision, the central locking is automatically released; the interior light and (depending on version) the hazard warning flashers are switched on.

Convenient closure of electric windows and electric sliding/tilting sunroof: with the door closed, turn the key in the 'lock' direction and hold it there for as long as necessary.

Note:

This function can also be performed from the tailgate lock on the touring: turn the key to the right and hold it there.

Warning:

When locking the car, check that there is no danger of fingers etc. being trapped. The locking procedure is interrupted as soon as the key is released.

Emergency operation

(in the event of an electrical fault)

At any door, turn the key in the appropriate direction to the limit position to release or lock that door.

Opening the doors from the outside:

Lift up the handle plate.

Driver's door lock heating*:

The heating is switched on when the handle plate is lifted.

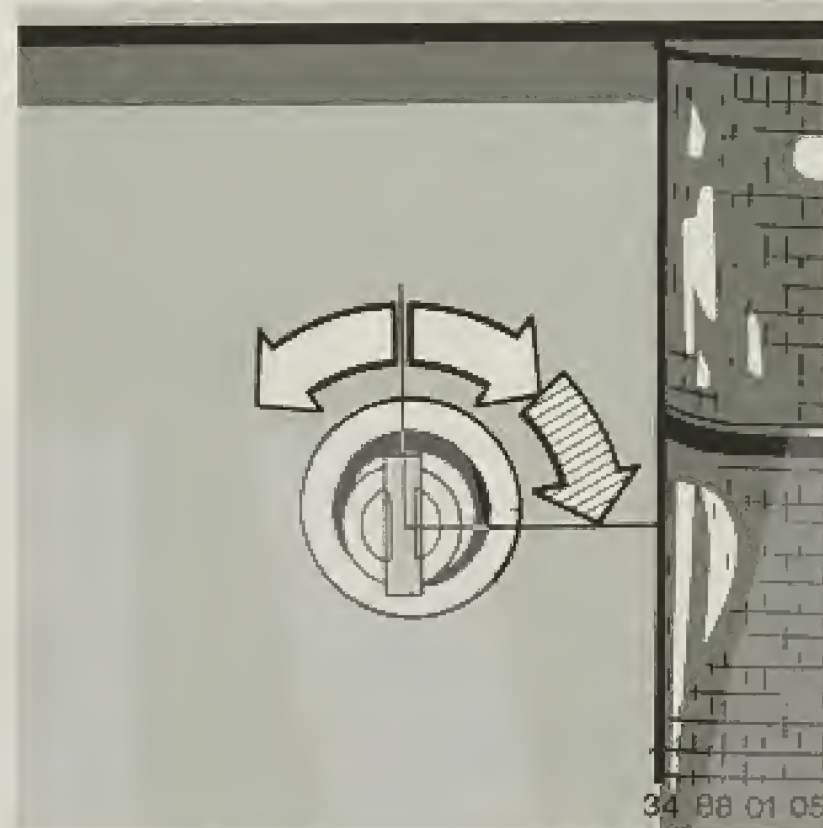
The heating time is automatically controlled to save energy.

Opening the doors from the inside:

Pull the handle above the armrest.

Important note:

Children left in the car could lock the doors from the inside. To prevent this, make a point of removing the ignition key and taking it with you, so that the doors can be unlocked again from the outside.

**Luggage compartment**

Lock can only be operated with the master key.

**Central locking**

(only locking is possible by turning key to right. The thiefproofing device is engaged at the same time.)

If the key is turned to the left, the thiefproofing device is engaged but the luggage compartment can still be opened.

**Locking luggage compartment**

(remove master key in the horizontal position):

This prevents access to the luggage compartment if the spare door and ignition key is handed in at hotel garages, workshops etc. (not on vehicles with through-loading facility).

If the thiefproofing device is actuated, the luggage compartment can be opened with a master key but the thiefproofing device must be activated again afterwards.

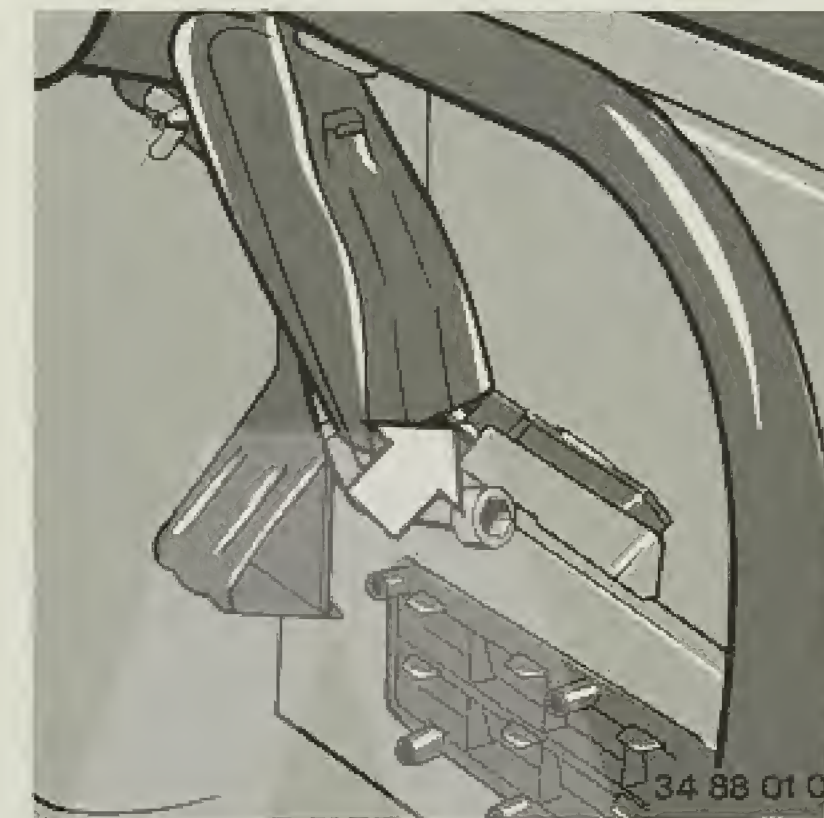
Luggage compartment light

The light comes on when the lid is opened.

There are **lashing eyes** in the luggage compartment floor for luggage nets* or tensioning straps for securing items of luggage.

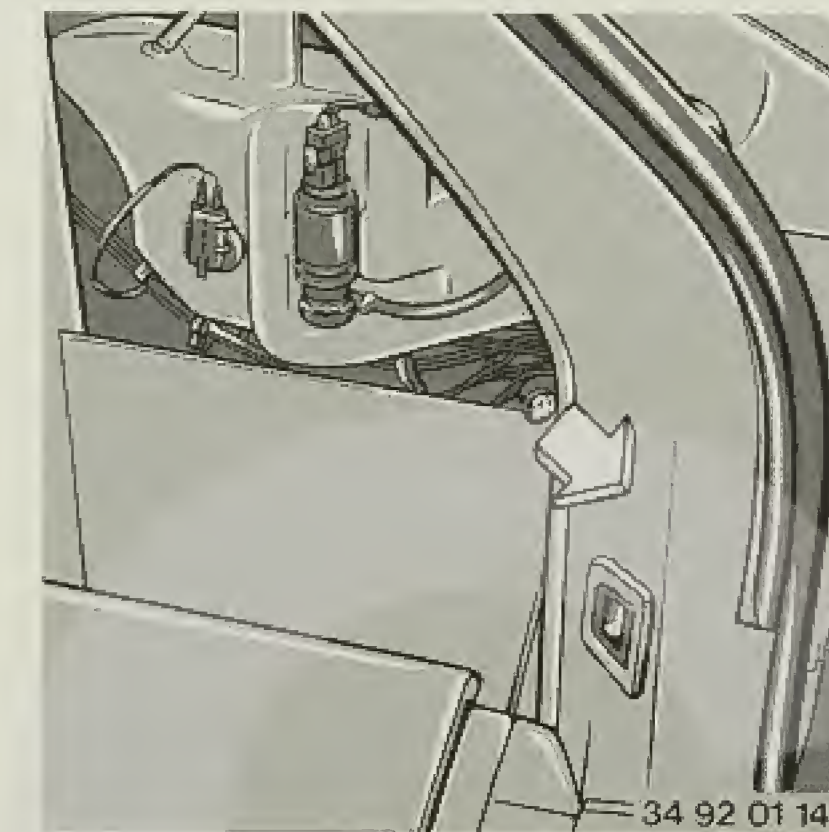
Use the **tensioning straps*** in the luggage compartment mat for securing smaller items of luggage.

The handle recess next to the lock facilitates closing the luggage compartment lid when open.



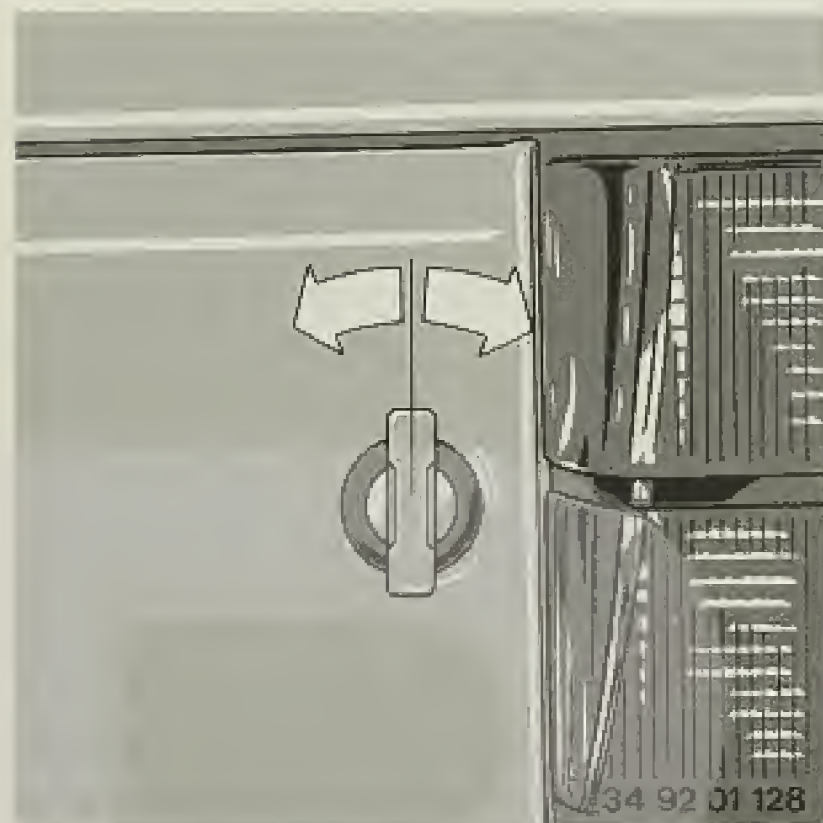
To release the fuel filler flap if the central locking system has failed:

- lift up the right floor mat in the luggage compartment
- take off the right section of the luggage compartment trim (quick-release fastener)
- push back the lock bar (arrow).

**BMW touring**

Releasing the fuel filler flap if the central locking system has failed:

- open the flap in the right-hand side trim of the load area
- pull back the button with the fuel pump symbol (arrow).



BMW touring

Tailgate lock

This can only be operated with a master key.

Key turned to right: central locking and thiefproofing device engaged, immobilizer activated.

Key turned to left: when the thiefproofing device is engaged, the tailgate and rear window can still be opened at their release buttons (see next column).

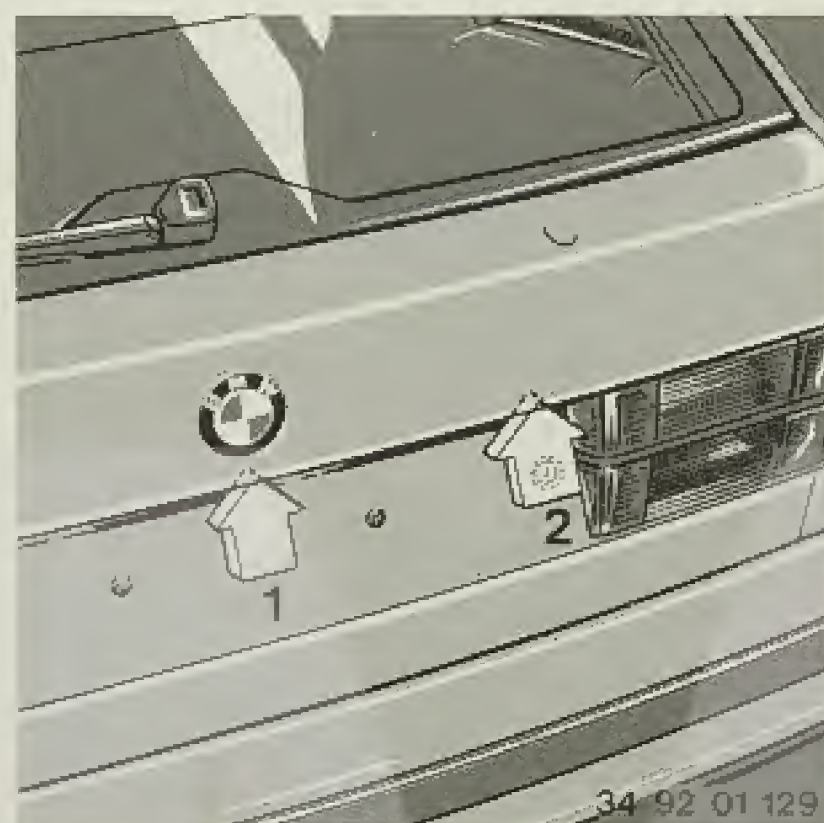
Emergency operation

(in the event of an electrical fault)

Turn the key to the left-hand limit position to release and open the tailgate.

Note:

In order to lock the tailgate when on the move, close the front doors and press down the safety catch on either of these doors.



Tailgate and rear window

- Release with central locking system or at tailgate lock
- To open the tailgate:
Press button 1 beneath the BMW badge
- To open the rear window:
Press button 2 above the tailgate lock; the rear window can now be pivoted upwards.

To close:

- Press tailgate or window shut
- Lock by means of the central locking system or at the tailgate lock.

The recess handle on the right next to the lock facilitates closing the tailgate lid when open.

Note:

If you have to drive with the rear window open in order to transport a particular load, close all windows and the double-panel sunroof (if fitted), and turn the heating/ventilation blower to a medium or high setting to ensure that the car's interior is properly ventilated and kept free of exhaust fumes.

When loading long objects through the rear window, protect all edges to prevent damage. If the window becomes chipped at the edge, it could shatter either immediately or after any delay.

When loading the roof rack system, ensure that no objects protrude into the opening range of the tailgate.

To improve the car's road behaviour, position heavy goods as far forward as possible.

Please ensure that loads are secured in transit to prevent them from sliding around, so that they cannot injure the car's occupants (particularly when the car is braked or caused to swerve).

There are recessed lashing points on the side trims of the load area to secure goods being carried, ideally with the aid of the luggage net*.



Childproof locks on rear doors

Insert the master key in the lock and turn towards the outside: the door can **only** be opened from the outside.



Remote control with infrared transmitter*

Point the transmitter at the receiver located below the car's interior mirror (max. 5 metres away). The beam must reach the receiver directly.

Opening: press button 1.

- The LED comes on briefly
- The central locking and thiefproofing device are released
- The immobilizing device is de-activated
- The alarm system is de-activated
- The car's interior light is switched on.

Locking: press button 2.

- The LED comes on briefly
- The central locking is engaged
- The thiefproofing device is engaged
- The immobilizing device is activated
- The alarm system is activated.

To switch off the alarm system's tilt alarm sensor, e.g. when travelling by autorail or using a two-level garage (see also Page 64): press button 2 again briefly after activating the thiefproofing device.

Convenient closing circuit:

To close the windows and sliding/tilt roof, hold **button 2 depressed**. The closing procedure will start after a delay of app. 2 seconds and the LED flashes.

Note:

If convenient closing is interrupted inadvertently, do not restart the process simply by pressing the button a second time, as the tilt alarm sensor will otherwise be switched off. To restart convenient closing, first of all press button 1 (opening).

Warning:

During the closing process, check that there is no danger of fingers etc. being trapped. The closing process is interrupted immediately when the button is released.

Master key

The key on the infrared transmitter is a master key.

Except for the alarm function, all remote-control functions can also be performed with the conventional keys (see Page 7).



Batteries

Renew the batteries if the LED does not come on when a button is pressed, and closing movements cannot be performed:

Lever off the cover at the recess (arrow) with the aid of a screwdriver.



Remove the 2 screws (arrows) and take off the cover.

The correct battery type and installed position are printed on the battery holder.

Important:

Use only batteries of the specified type.



Hand in spent batteries at a collection point for used batteries or at your BMW service station.



Initialising the transmitter

After renewing the transmitter battery, the infrared transmitter must be initialised (unless renewing takes less than one minute and none of the buttons is pressed). The same applies if a new transmitter has been obtained, e.g. to replace a faulty one:

- The car must have been opened using the remote control.

- Close the driver's door.

Important:

If the driver's door is not closed, the initialising process can still be carried out but any further initialising process in future is blocked. This blocking must then be rectified by a BMW service station.

- Briefly turn the ignition key in the steering lock to position 1 (for max. 5 seconds), then back to 0.

- Press button 1 (illustrated) on the transmitter and hold depressed. Press button 2 briefly three times within 10 seconds, meanwhile always keeping button 1 depressed. Release button 1; the LED will flash slowly for max. 10 seconds.
- While the LED is flashing, hold the transmitter close to the receiver under the inside mirror (at a distance of no more than app. 15 cm) and press one of the two buttons.
- The central locking function will be engaged and immediately released again, indicating that the transmitter has been successfully initialised.

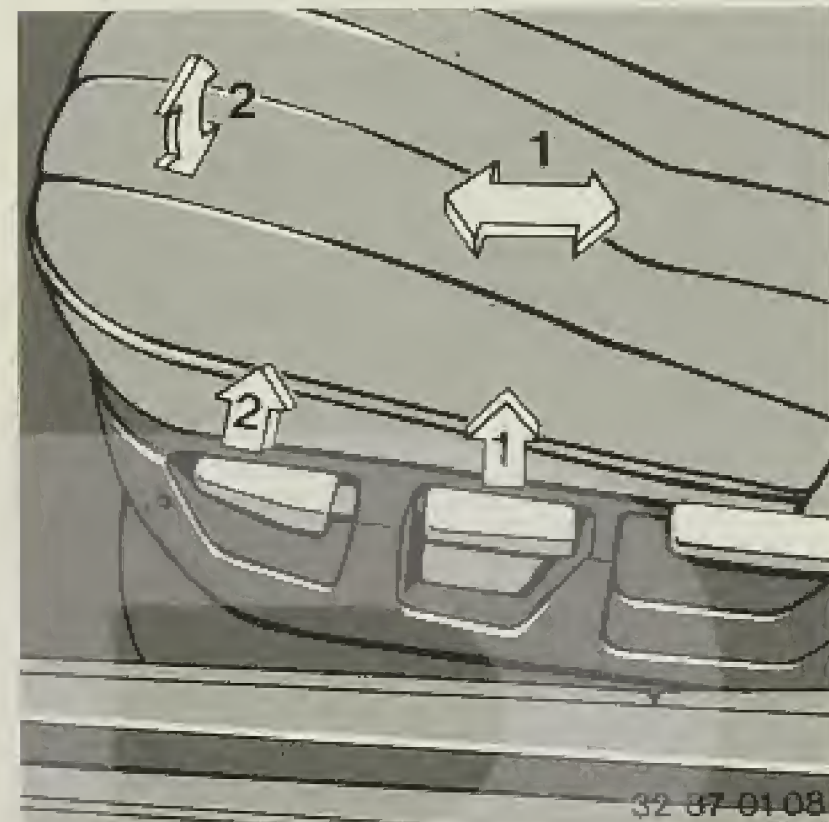
If the LEDs do not flash or if the central locking does not respond, the initialising procedure must be repeated.

Any other transmitters used for the car (up to four are possible) must each be initialised within 30 seconds. Do not operate the ignition this time.

If a transmitter develops a fault, a replacement can be obtained from your BMW service station.

Note:

In the same way that any key can be copied, the infrared transmitter's signal can also be reproduced. To guard against abuse, the code is changed automatically each time the transmitter is used and it can be re-initialised at any time. You should nevertheless always protect the infrared transmitter against use by unauthorised persons.



Seats

Moving seat forward/back

Pull lever (1) and push the seat to the desired position.

After releasing the lever, make sure that the seat engages in its catches.

Angle of complete seat (driver's seat only)

Pull lever (2) and move the seat as required.

BMW sports seat*

Additional adjustment of thigh support at hand wheel to one side of the frame front side.



Seat back adjustment

Pull lever (1) and apply weight against the seat back or allow it to come forward.

Seat height adjustment

Press lever (2). Apply weight to seat or allow it to come up as required.

Warning:

Do not reposition the driver's seat while the car is in motion. A sudden seat movement could cause you to lose control of the car and result in an accident. Nor should the front passenger's seat be fully reclined while the car is being driven.

Note:

The spine obtains most relief when you sit right back in the seat and rest against the seat back. Ideally, the driver's head should be on a straight line forming a direct extension of the spinal column.



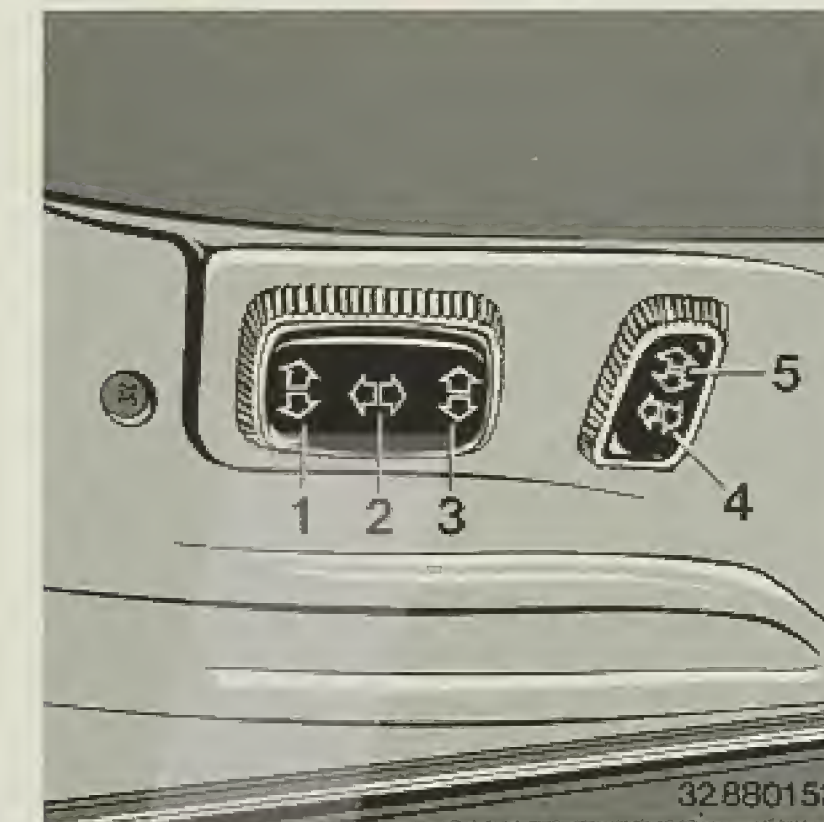
On longer journeys the seat back angle can be increased slightly to reduce the strain on the body muscles further. However, the driver must still be able to reach the full circumference of the steering wheel with the arms slightly bent.

Front and rear head restraints*

To alter the height, pull up or push down as required. Pivot forward or back to adjust the angle.

Warning:

Head restraints help to reduce spinal injury if an accident occurs. They should be positioned approximately at ear height when the seat is occupied.

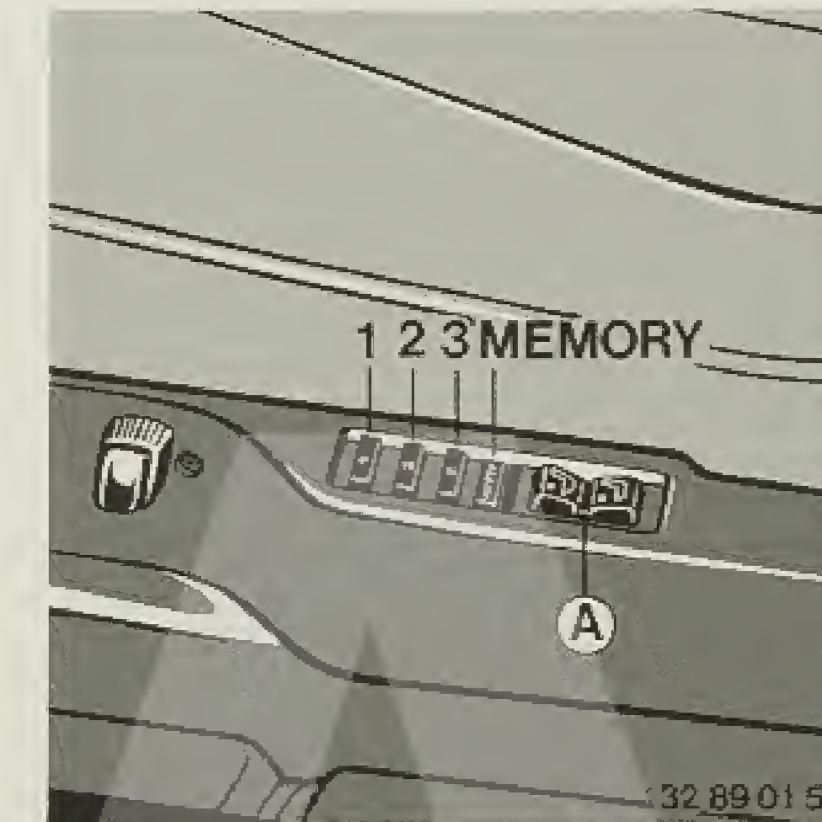


Electric front seat adjustment*

- 1 – Seat angle adjustment
- 2 – Forward/back seat movement
- 3 – Seat height adjustment
- 4 – Seat back angle adjustment
- 5 – Head-restraint height adjustment

BMW sports seat*

Additional adjustment of thigh support at rocker switch on outer edge of seat frame (switch A in right illustration).



Seat, mirror and steering wheel memory*

Three different seat, door mirror and steering wheel positions* can be programmed and selected when required.

Programming (ignition key position 1 or beyond):

- Move seat, mirrors and steering wheel to the desired positions.
- Press the MEMORY button; the telltale lamp shows readiness for programming.
- Press button 1, 2 or 3 to store these settings.

Selecting:

With the driver's door open or with the door closed but the automatic interior light still on or the ignition key turned to position 1:

Press the desired button 1, 2 or 3 briefly. The automatic movement process is interrupted as soon as a seat or mirror control switch or the memory keys are operated.

With the driver's door closed and the ignition key either removed or in position 0 or 2:

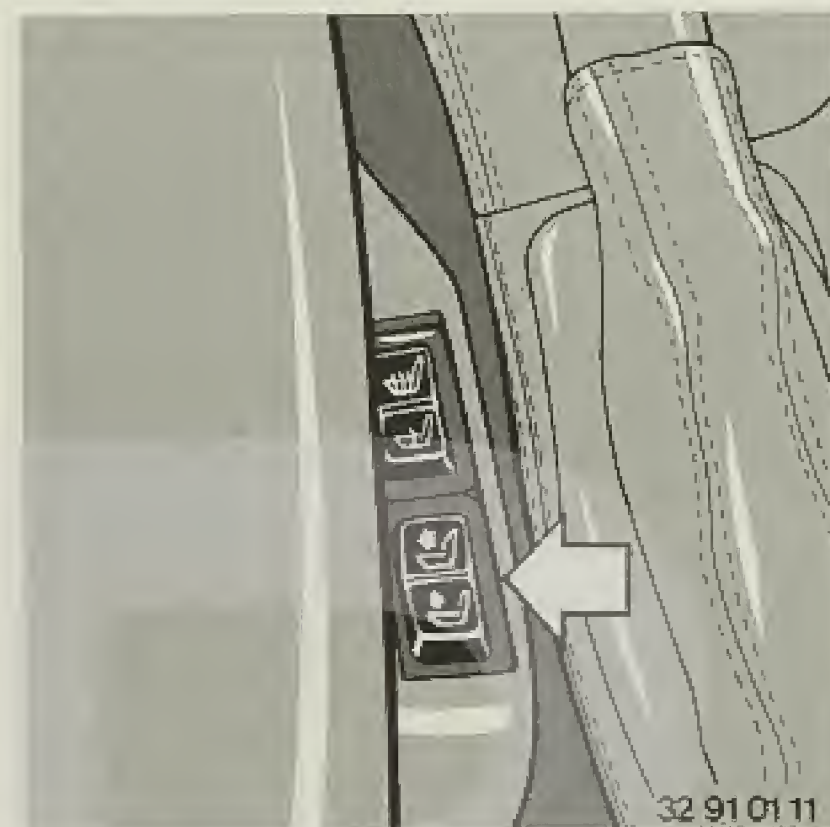
Press the desired button 1, 2 or 3 until the resetting procedure has been completed.

Tilting down passenger's side door mirror

Mirror changeover switch (see Page 26) in driver's door mirror position:

When reverse or selector lever position R is selected, the passenger's side door mirror glass tilts down slightly to show the road alongside and behind the near side of the car (edge of kerb etc.), as an aid when parking.

You can de-activate the automatic mirror tilting system by resetting the left/right mirror changeover switch to the "passenger's side mirror" position.



Lumbar support*

Press rocker switch on inner side of seat frame to adjust to the required position.

This facility enables you to extend or retract the convex support in the seat back for the lower spine.

This provides support for the upper pelvis and spine, to enable a relaxed sitting position.



Electrically-adjusted rear head restraints*

When a rear passenger fastens his or her seat belt, the corresponding head restraint automatically moves into position.

To adjust the height, operate the rocker switch.



Steering column adjustment*

Fold out the clamp lever.

Pull out or push in the steering wheel to adjust its position in relation to the seat. Fold the clamp lever back in.

Warning:

Do not adjust position of the steering column while driving – risk of accident.



Electric steering wheel adjustment*

Steering wheel reach and height* can be altered by moving the lever accordingly.

Warning:

Never adjust the steering wheel while driving – risk of accident.

Storing steering wheel position: see seat, mirror and steering wheel memory, Page 15.

Automatic steering wheel adjustment* (only in conjunction with height adjustment)

To facilitate access and exit, the steering wheel moves to its top position when:

- the ignition key is turned to position 0
- the driver's door is opened when ignition key is in position 1
- the ignition key is in position 2, the handbrake is applied and the driver's door opened.

The steering wheel moves to the travel (memory) position when:

- the ignition key is in position 2 and the handbrake is released when the driver's door is open
- the ignition key is in position 2, the handbrake is applied and the driver's door is closed.



Horn

Press the centre pad (the airbag cover) on the steering wheel at any convenient point.

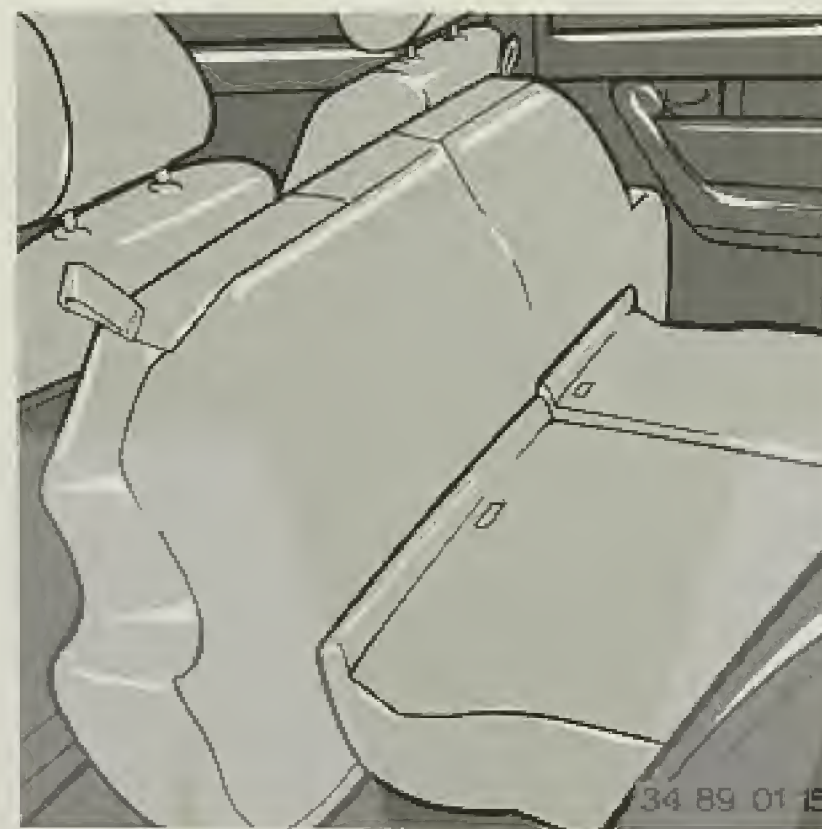
Standard steering wheel*: press one of the horn pushes.



Through-loading facility*

The rear seat is divided one-third/two-thirds. To store long objects, the seat cushions and seat back section(s) can be folded down.

Pull the strap on the seat cushions and lift upright, moving the front seats forward slightly if necessary.



The rear seat back is automatically disengaged and can then be folded forward.

Warning:

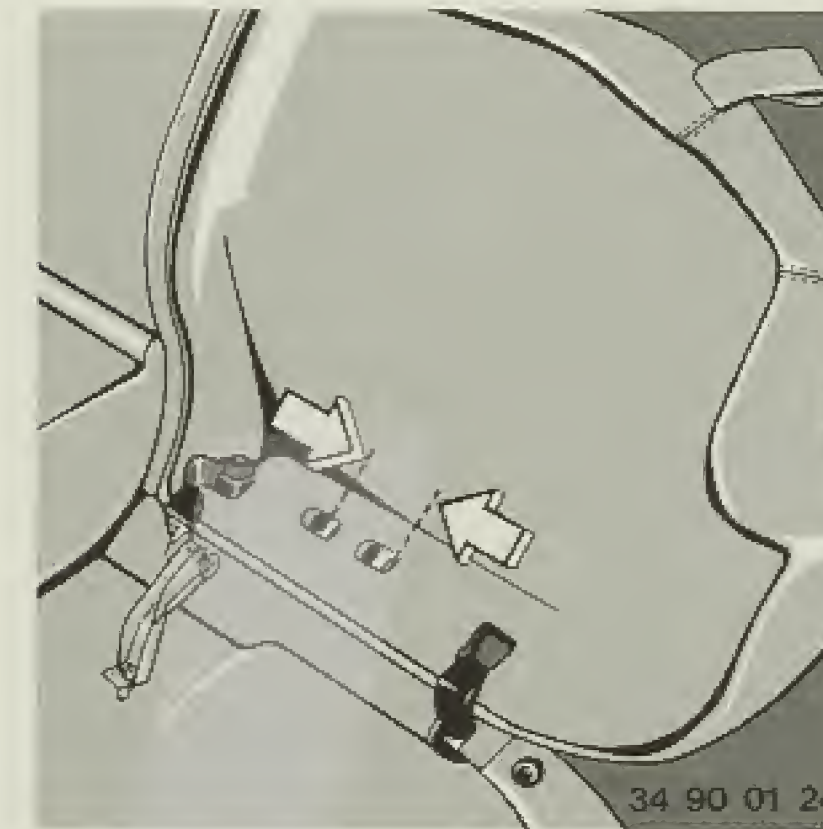
The outer corner sections of the seat backs are fixed.

First pull out the head restraints* with a firm movement, positioning the seat back at an angle if necessary.

The space between the folded seat back and the door is suitable for temporary storage of the head restraints.



If a seat back is inadvertently locked in position again, press the lever (arrow) and release it; the seat back is now disengaged.

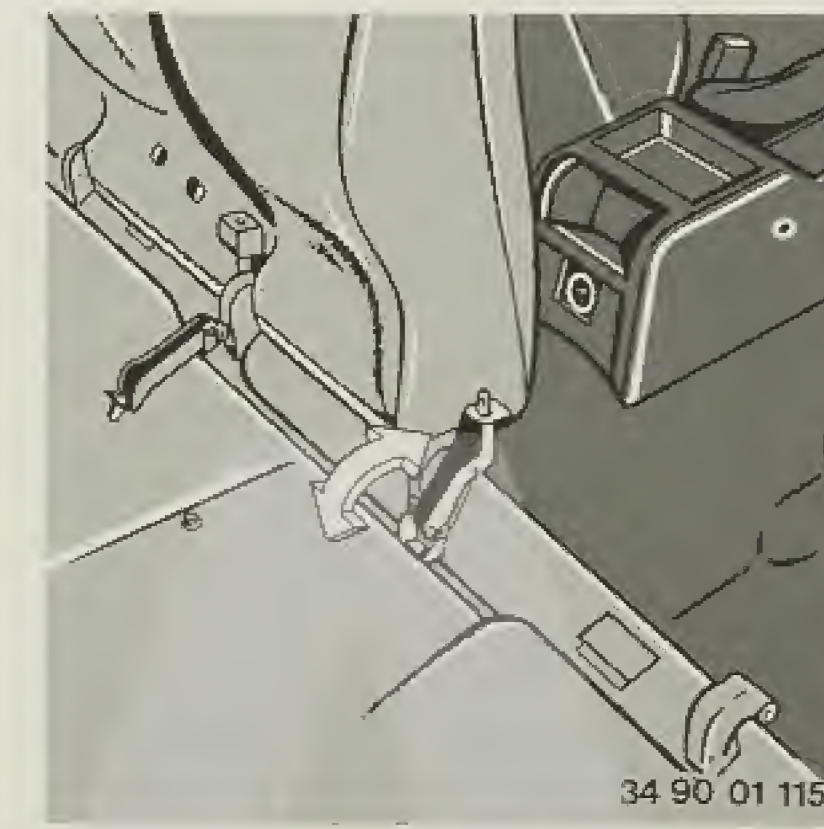


If necessary, the seat cushions can also be removed.

Lift the cushions into an upright position, squeeze the release lever and lift out the cushions to the front. Follow the reverse procedure when installing.

Long items can be carried with the front passenger's seat slid forward, its head restraint removed (a sudden jerk is necessary to remove the electrically-operated version) and the seat back in the reclined position.

To install an electrically-operated head restraint again, press in firmly to engage in position.

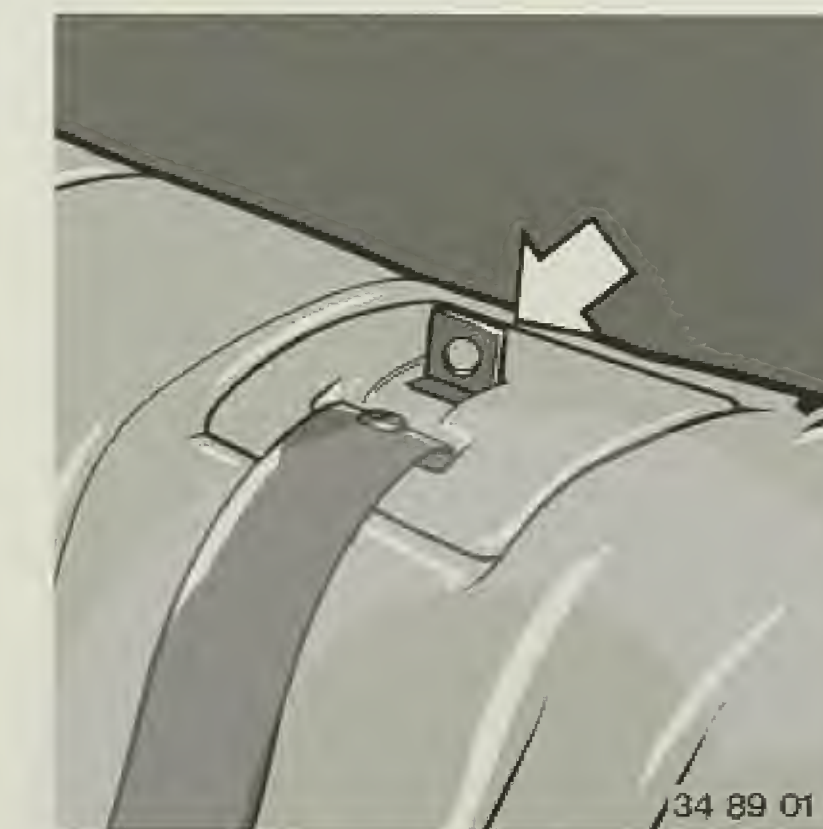


With the seat cushion removed, raise the retaining mount (arrow) and allow the red seat back slide to engage in the pin on the mount.

Warning:

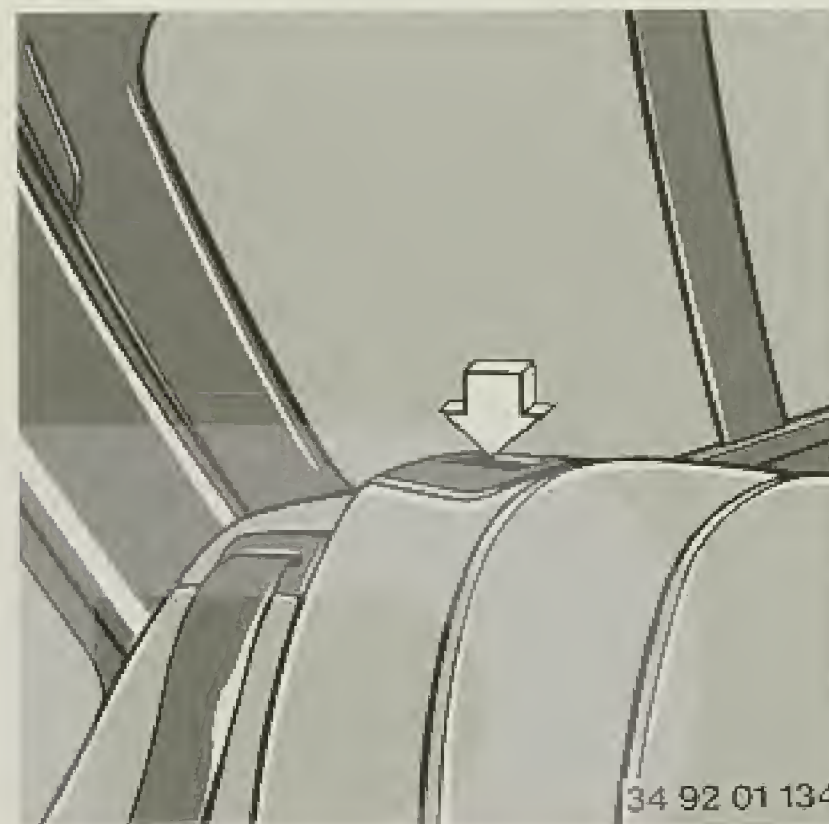
Before installing a seat cushion again after removal, always fold the retaining mount back down.

Ensure that loads are secured in transit to prevent them from sliding around, so that they cannot injure the car's occupants particularly when it is braked or caused to swerve.



When the seat back is folded back up, ensure that it engages correctly so that the seat belt functions properly. The red slide (arrow) must move down.

If a seat back is not locked into position, the seat belt cannot be pulled out.



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BMW touring

Folding rear seat backs

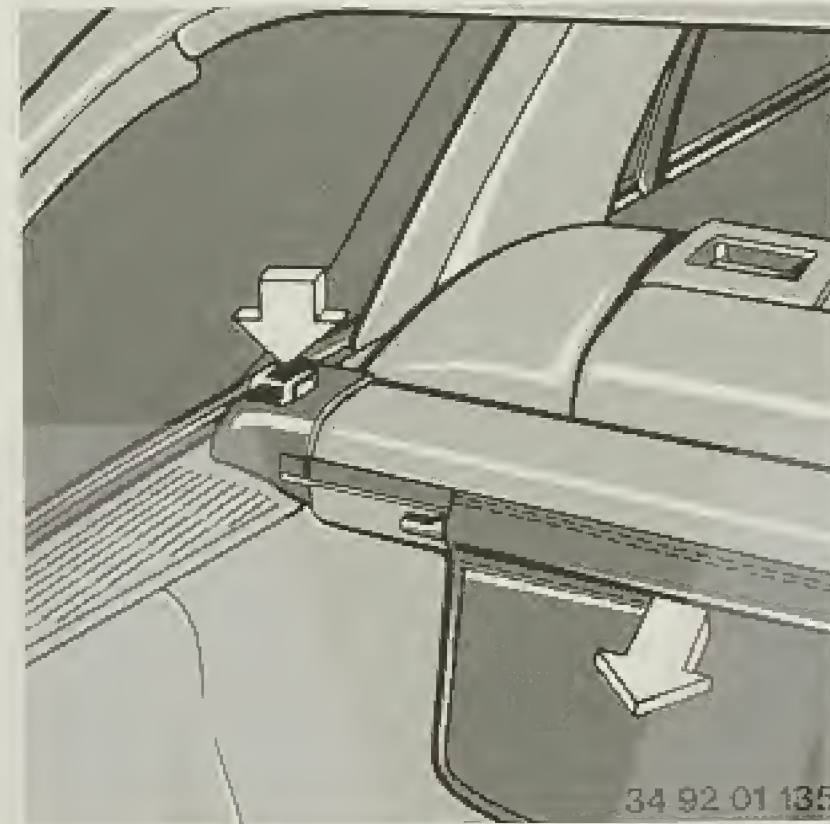
The rear seat back is divided one-third/two-thirds.

To fold down, reach into the recess (arrow), pull forward and fold it down completely.

To fold up, likewise take hold of it at the recess, pull it up and allow the seat back to engage in position.

Note:

When properly engaged, the red warning area is concealed in the recess.



34 92 01 135

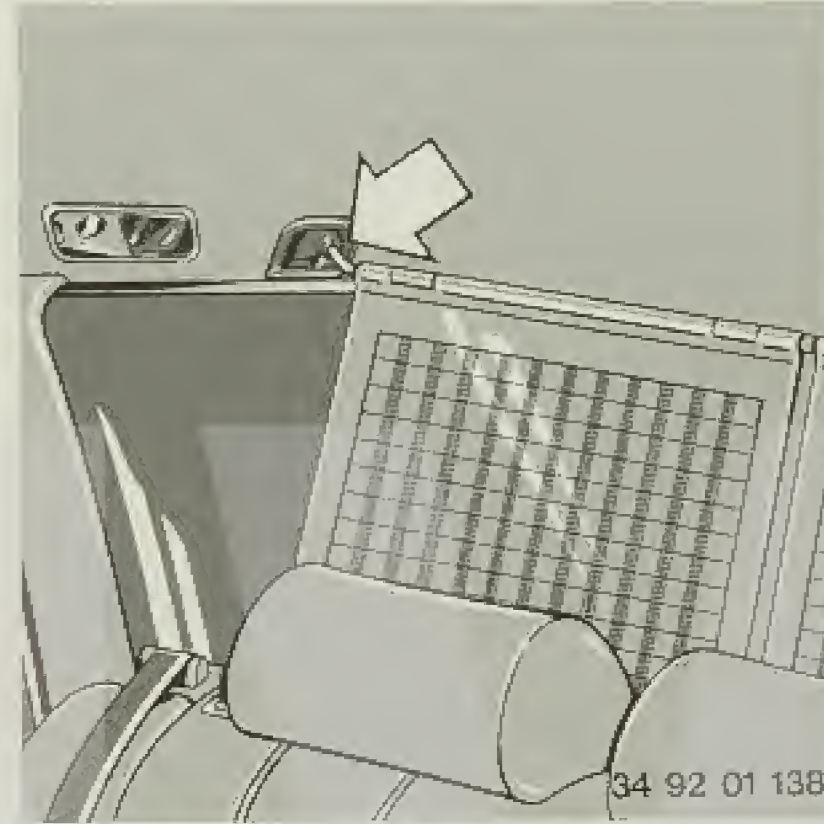
Roller cover for load area

Pull out roller cover and engage at rear in the sockets.

The roller cover cassette can be removed: Press the buttons on either side (arrow) and take out the cassette.

To reinstall, simply press the cassette into the holders.

Light-weight objects, such as items of clothing, may be placed on the roller cover.



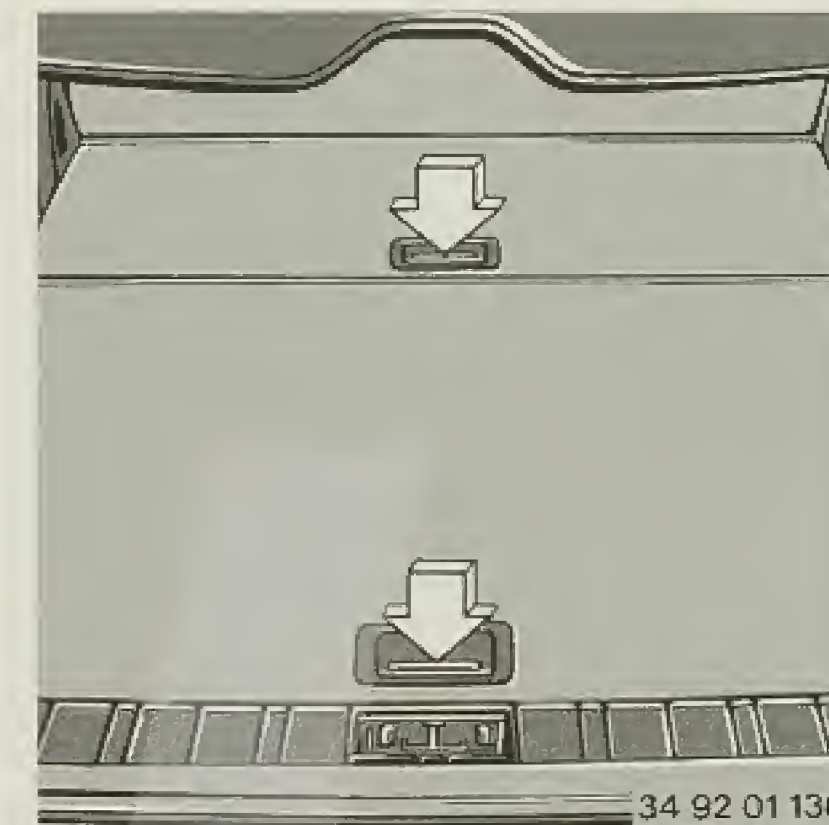
34 92 01 138

Load area dividing net*

Pull the net out of the larger seat-back top section, extend the mounting rod to the full width and locate in the holders (see illustration).

If desired, the smaller net section can also be drawn out and fitted to the mounting rod.

Holders for the mounting rod are available with the rear seat back(s) both folded down and erect.



34 92 01 136

Flaps in load area base

To open:

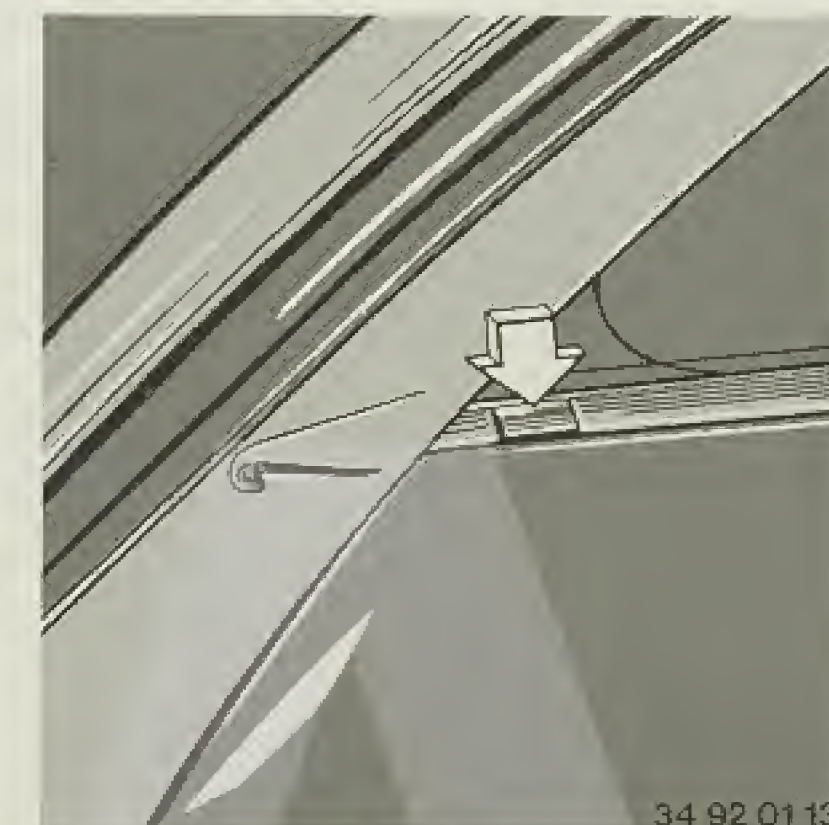
Press the rear recessed handle (arrow), fold up flap on handle.

The front flap conceals the following:

Car jack, wheel stud wrench, wheel chock, adapter for thiefproof wheel studs*, hexagonal wrench for wheel stud cover* and ball head for trailer tow hitch*.

The rear flap conceals the following:

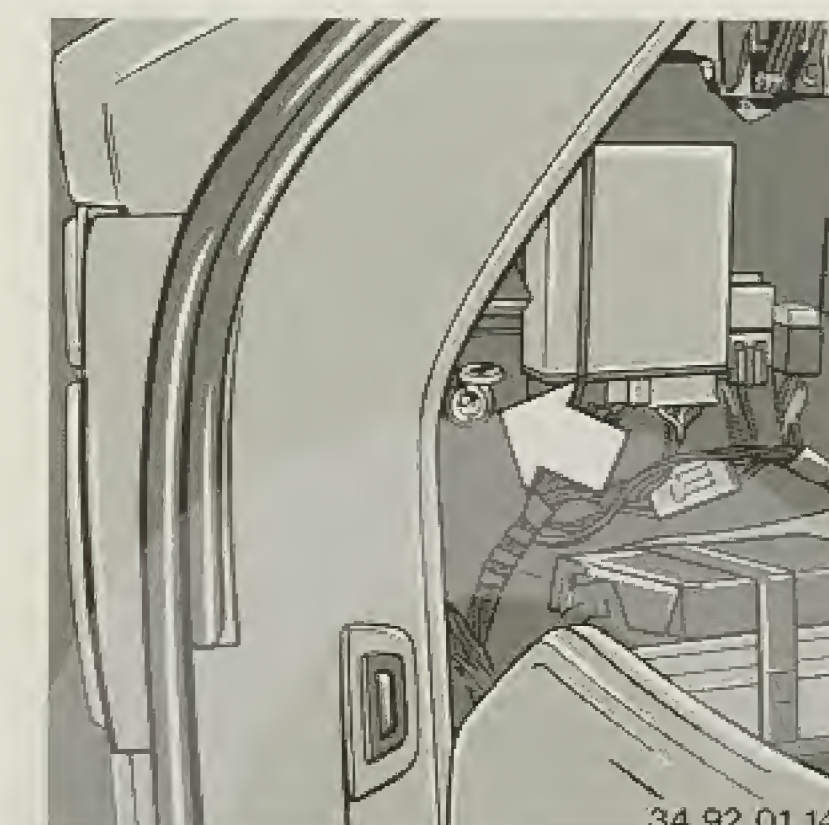
Spare wheel and storage compartment with sub-divisions.



34 92 01 137

Flaps in load area side trims

Press the release button to open.

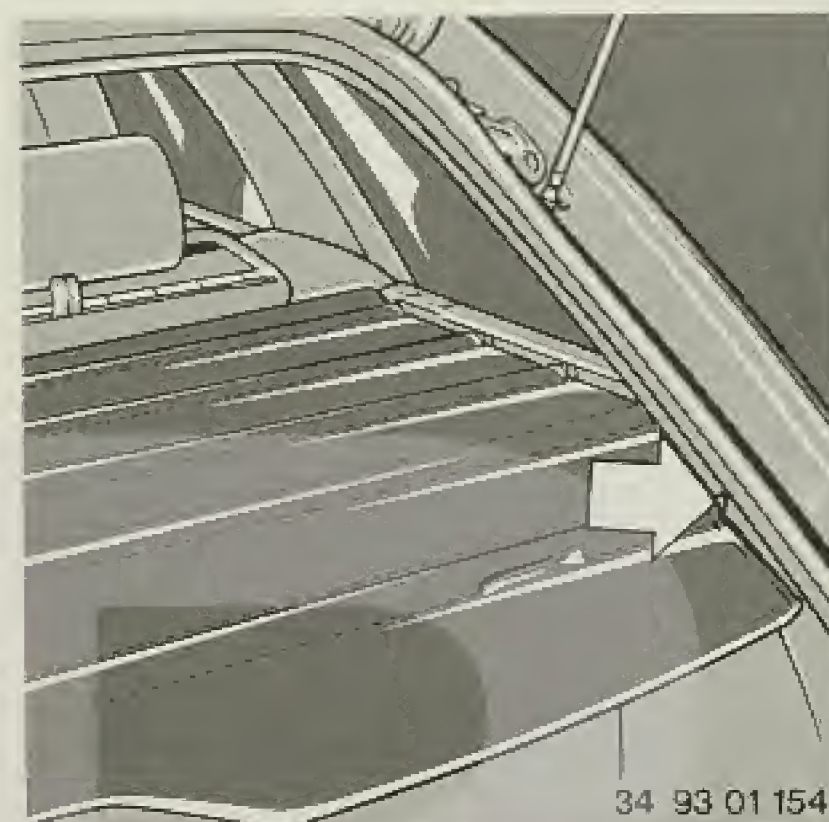


34 92 01 146

Auxiliary power socket*

Can be used as a power socket for electrical equipment rated at up to app. 280 W at 12 V.

Take care not to damage the socket by unsuitable plugs.



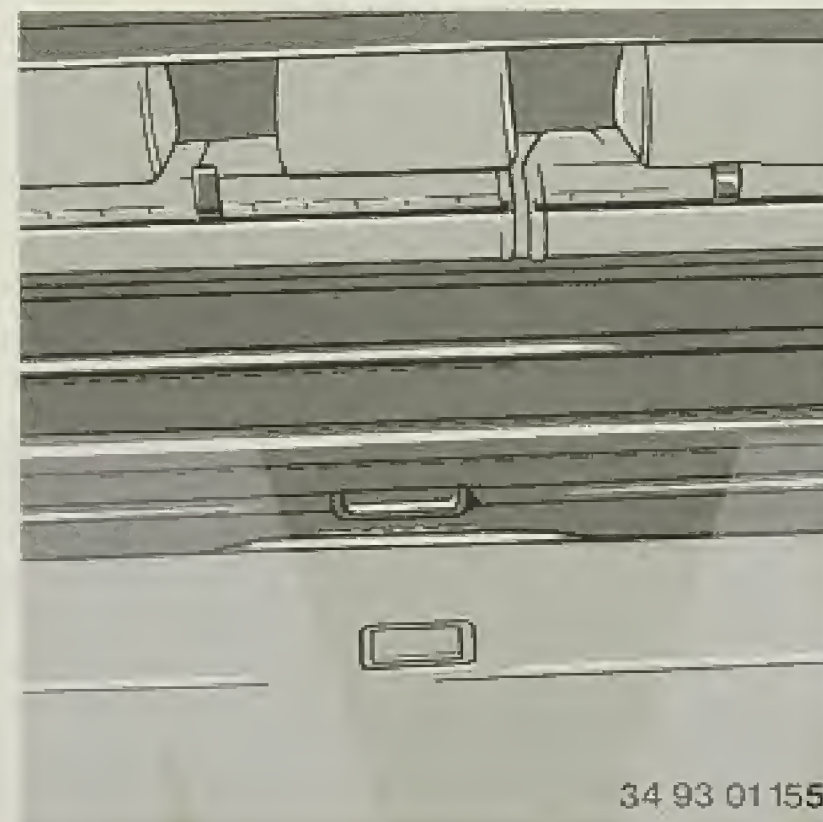
Reinforced load-area roller cover*

Pull out the cover using the handle and engage in the sockets at the rear.

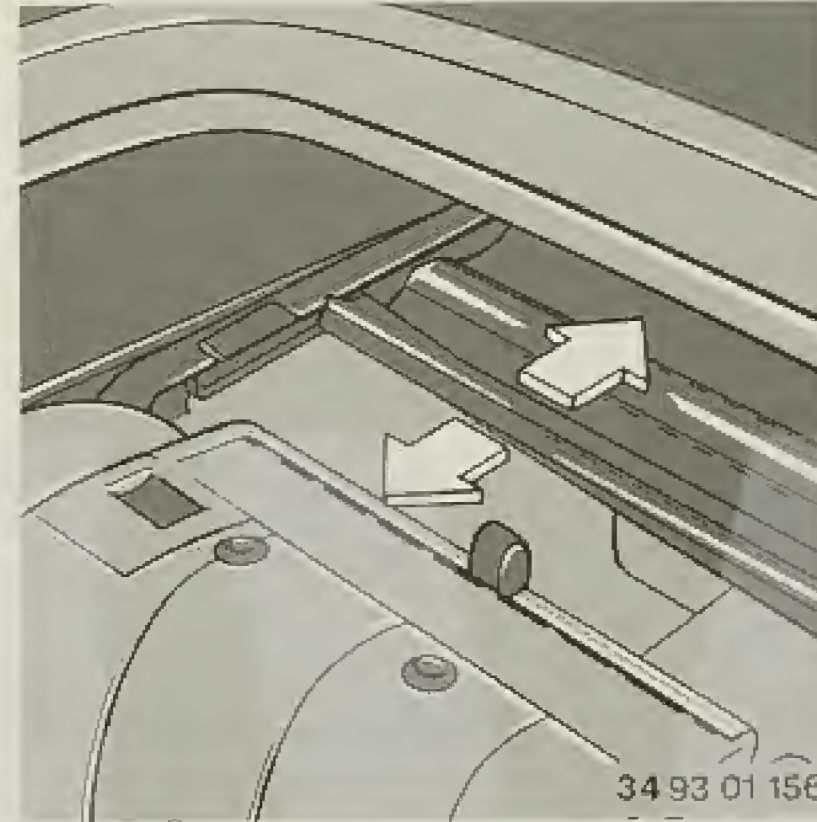
The roller cover has a load-bearing capacity of 25 kg.

Important:

Heavy or hard objects should only be transported on the roller cover if the load area dividing net is in position. Make sure that such objects will not be flung through the dividing net, e.g. as a result of braking manoeuvres.

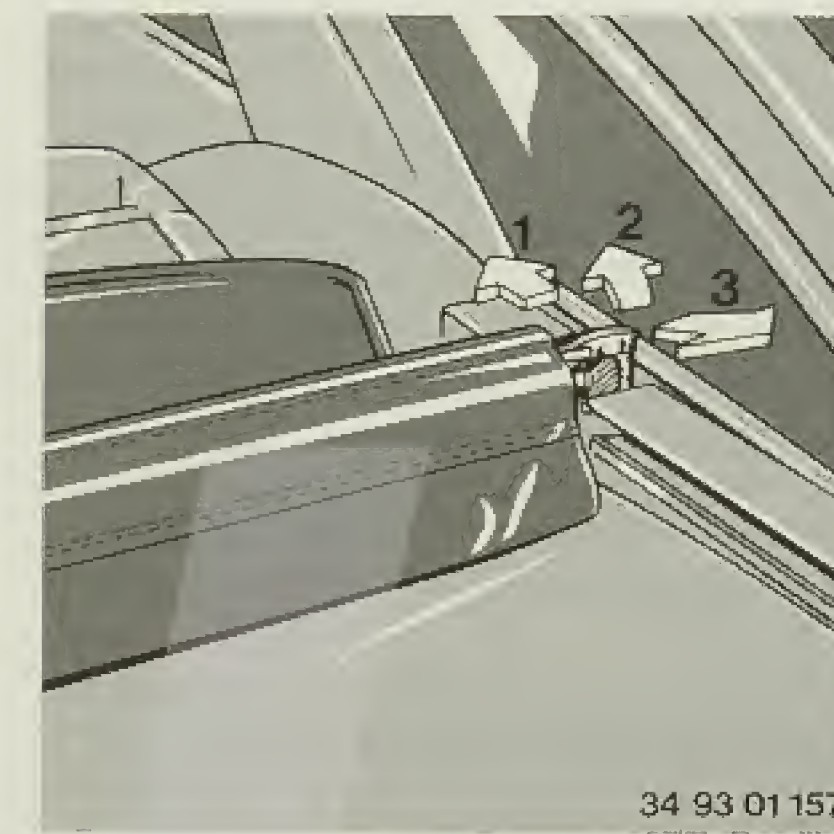


Before pushing back, place the handle in the last fold of the cover.



When extended, the cover can be opened from behind the rear seat back, e.g. for access to the load area from the rear seat while in transit.

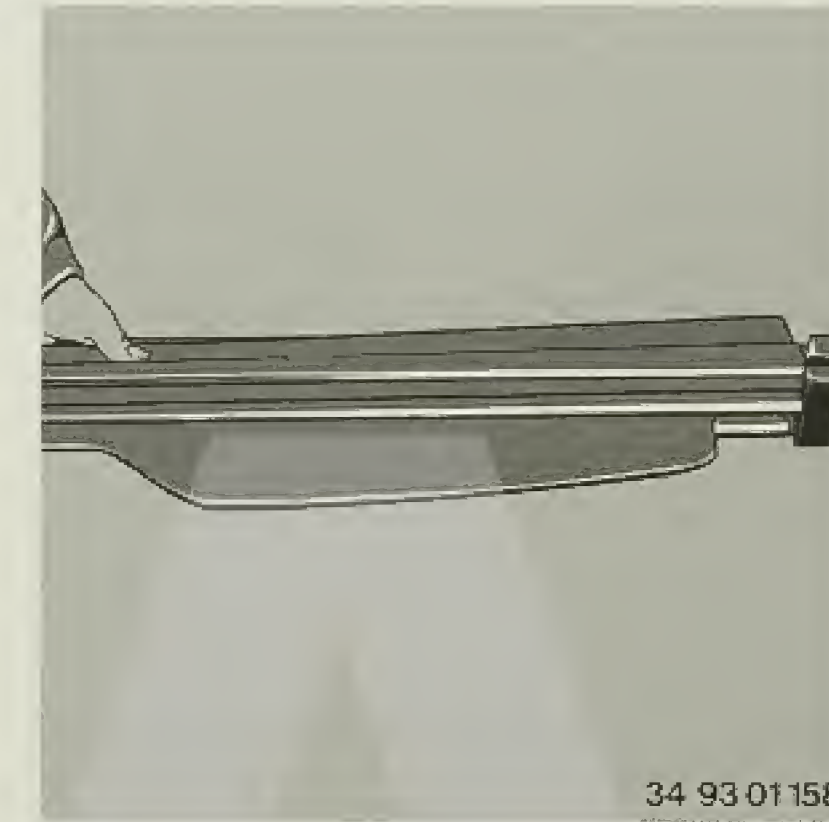
Push back the cover at the first rod; a certain amount of initial resistance needs to be overcome. To close, likewise press the first rod gently into the sockets. Ensure that the short front tab is resting on the side supports.



Removing:

Grip the cover at both outer ends, push forward (1), lift back (2) and then raise to the rear to remove (3).

Alternatively, carefully follow the above procedure for each side separately.



Note:

When removed, take care that the rods are kept in the cartridge.

When not installed, this item should therefore ideally be carried as illustrated.

If the rods should inadvertently slide out, they must be inserted in the cartridge at both ends simultaneously.

Installing:

Tilt the cover forwards and introduce it together with the two cartridges into the holders (arrow on the cartridges indicates front), push forward and then press down to engage.

Note:

To engage the cartridge properly, the top side must lie flush with the guide rails so that the rods can slide smoothly when extended.



Seat belts

The car's occupants should put on their seat belts before each journey starts.

The seat belt catch should be heard to engage when the belt tongue is inserted into it.

Releasing the seat belt catch:

Press the red button on the catch. Guide the belt back into the automatic reel if necessary.

Place the belt across the pelvis and shoulder, making sure that it is not twisted (do not pass the belt over hard or breakable objects in your pockets or clothing). The belt adjusts itself according to body movements.

The belt should be as close to the body as possible, therefore avoid wearing thick and heavy clothing and do not tilt the seat too far back. Take up slack regularly by pulling up the belt at the shoulder.

Important:

For the following reasons, it is essential for the belt not to be worn slack (and for the seat back not to be reclined at too great an angle when the car is being driven):

in the event of a head-on collision, the lap belt could slip over the hips and injure the lower part of the wearer's body. Furthermore, the restraining effect of the seat belt is delayed if the belt is too slack.

Pregnant women should always wear the seat belt, making sure that the lap belt passes low down over the hips and does not press against the lower part of the abdomen.

The height of the upper belt anchorage point is automatically adjusted as the seat is moved forward and back, to suit occupants of various heights.

Only one person must be secured by each seat belt.

The seat belt must not pass over the neck, become jammed or be allowed to rub against any sharp edges.

Important:

Never carry babies or small children on your lap when being driven.

Use suitable child restraint systems for children up to 12 years old.

Babies up to 9 months old can be carried in a shell-type seat secured to the front passenger's or rear seat by means of the standard seat belts and facing to the rear.

There is the BMW VARIO system for children aged between 9 months and 3 years, and between 3 and 6 years.

For children aged between 9 months and 3 years, the seat is secured at two catches on the front passenger's seat; children aged between 3 and 6 years use the BMW VARIO system and the standard seat belt, facing the front.

A further three-section child's seat consisting of seat shell, seat back and restraint device is generally suitable for children between 2 and 12 years old.

It is mounted facing forward, using the standard seat belt.

Whenever child restraint systems are used, always observe the manufacturer's instructions. The mounting points at the rear are available as standard.

Important:

Child restraint systems may not be used on the front passenger's seat if a front-passenger airbag is fitted.

Do not tamper with any occupant restraint system.

If any damage or severe stress is incurred by a belt system, including the belt-catch tensioner and BMW child restraint systems*, the affected components must be renewed by a BMW service station and the belt anchoring points checked.

If the belt-catch tensioner is triggered off, there will be a gap of app. 20 mm between the belt catch and the housing.

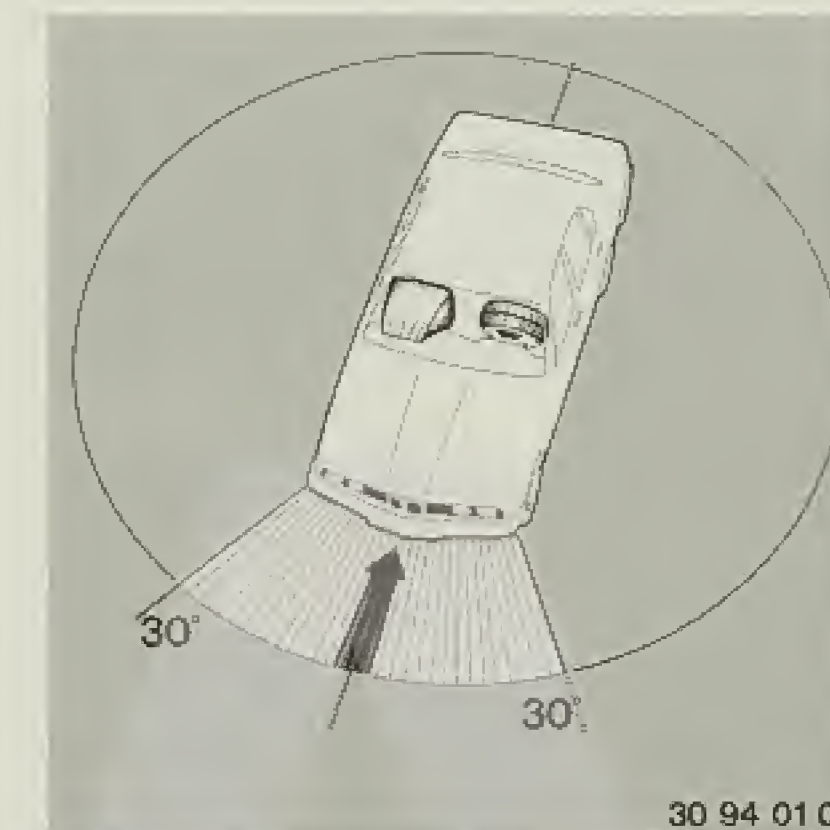
The belt locking mechanism will act when:

- the belt is pulled too fast
- the car is braked or accelerated abruptly
- taking corners, and
- the car is at a steep angle.

Note:

Please explain these points concerning the seat belts to any passengers travelling with you, and make sure that the seat belts are used properly.

Notes on care: see Page 125.



Airbag restraint system*

- Driver airbag*
- Front-passenger airbag*

The airbag restraint system protects the driver and front passenger in a head-on collision. The inflated airbag restrains forward movement of the driver's and front passenger's body and protects the upper body against injury.

The picture shows the area within which the airbag system is triggered off.

In less severe accidents and if the car rolls over, is sideswiped or struck from the rear, protection is provided by the seat belt.

Warning:

The airbag is an additional safety feature, and must not be regarded as an alternative to wearing the seat belt.

AIRBAG telltale light on instrument panel or on sports steering wheel*:

This telltale confirms that the system is in working order when the ignition key is turned to position 1 or beyond.

System operational:

- The telltale light comes on for about 6 seconds or 2 seconds* and then goes out.

System defective:

- The telltale light does not come on at all.
- The telltale light comes on for about 6 seconds or 2 seconds*, goes out briefly and then comes on again.
- The telltale light flashes for 5 minutes during a journey*, then remains on permanently.
- The telltale light is permanently on during a journey, or flickers*.

In these cases there is a risk that the system will not be triggered off in the event of a sufficiently severe accident within the airbag range. Please have it checked by a BMW service station without delay.

What happens when the system is triggered off?

The airbags, which are concealed under the padded flap in the steering wheel and instrument panel, are inflated rapidly, burst out of the preformed aperture and fill the space in front of the padded flaps.

The entire process, in which a considerable amount of energy is released, takes only one-twentieth of a second.

* Airbag restraint system fitted in sports steering wheel

In view of the very brief system response time the sound of propellant ignition, inflation and subsequent deflation are lost in the general accident situation.

Propellant gas and small quantities of fumes are released when the airbag is triggered off. They do not represent a health hazard or imply that the car has caught fire.

The sudden increase in pressure inside the car when the airbag or airbags is/are inflated may temporarily impair the driver's or front passenger's sense of hearing.

Warning:

Your seated position should be at a suitable distance from the steering wheel or instrument panel.

Always hold the steering wheel at the rim, as there is otherwise the risk of injury to the hands and arms.

No objects should be carried between the airbag compartment and the person it is intended to protect.

Even if all these points are observed, facial injuries as a result of the airbag being triggered off cannot be entirely ruled out due to the circumstances of each individual accident.

Airbag safety instructions

No modifications to individual components or to the wiring should be attempted. This includes the padded cover in the centre of the steering wheel and the cover on the instrument panel, which must never be covered with adhesive or any other material or otherwise modified or reworked in any way. The steering wheel itself must not be taken off.

Once an airbag system has been triggered off, all components must be renewed.

All work on the airbag system must be carried out by a BMW service station.

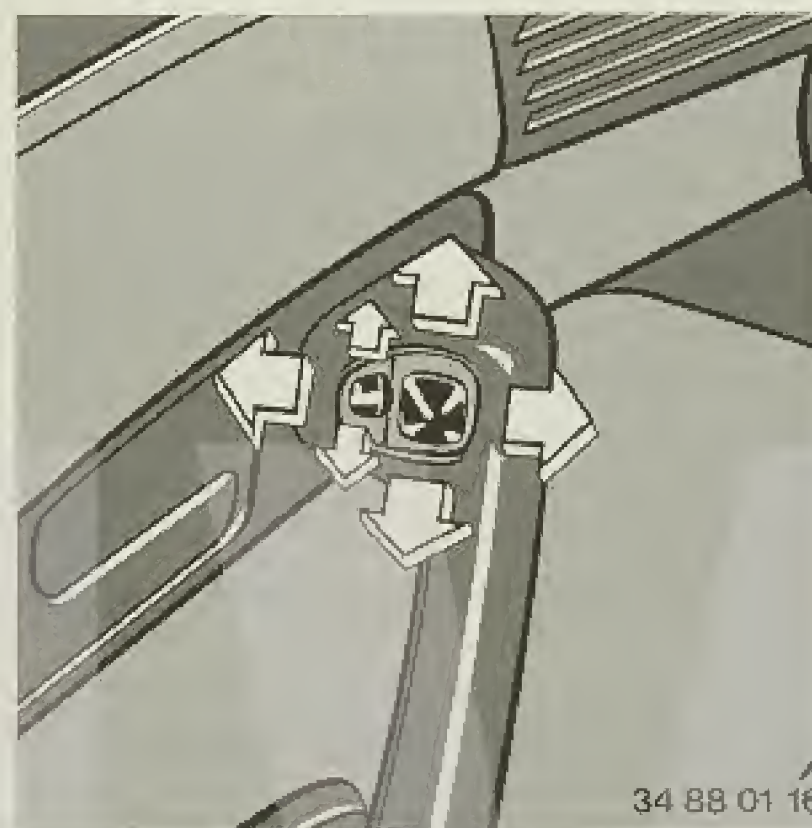
Any careless or unskilled interference with the system could lead to its failure or to accidental triggering off with the risk of injury.

If an airbag generator has to be scrapped, the safety precautions issued by BMW must always be complied with. They can be studied at any BMW service station.

Child restraint systems mounted on the front passenger's seat are not permitted on cars with a front-passenger airbag. In certain countries it is in any case required by law that children under the age of 12 may only travel at the rear.

Note:

Please explain these points concerning the airbag restraint system to the front passenger, and make sure that they are observed.



Mirrors

Electric remote-control door mirror

Operate the mirror switch to reposition the mirror as necessary.

Electric mirror heating*

The heating element comes on and is controlled automatically in ignition key position 2.

Passenger's door mirror

Operate the changeover switch and then the mirror switch to move this mirror to the desired position.

Warning:

This mirror has a convex glass. Objects seen in it are closer than they appear to be, so that it is not always possible to estimate their distance behind the car accurately. This also applies to the outer section of the aspherical wide-angle mirrors.

Aspherical wide-angle mirrors*

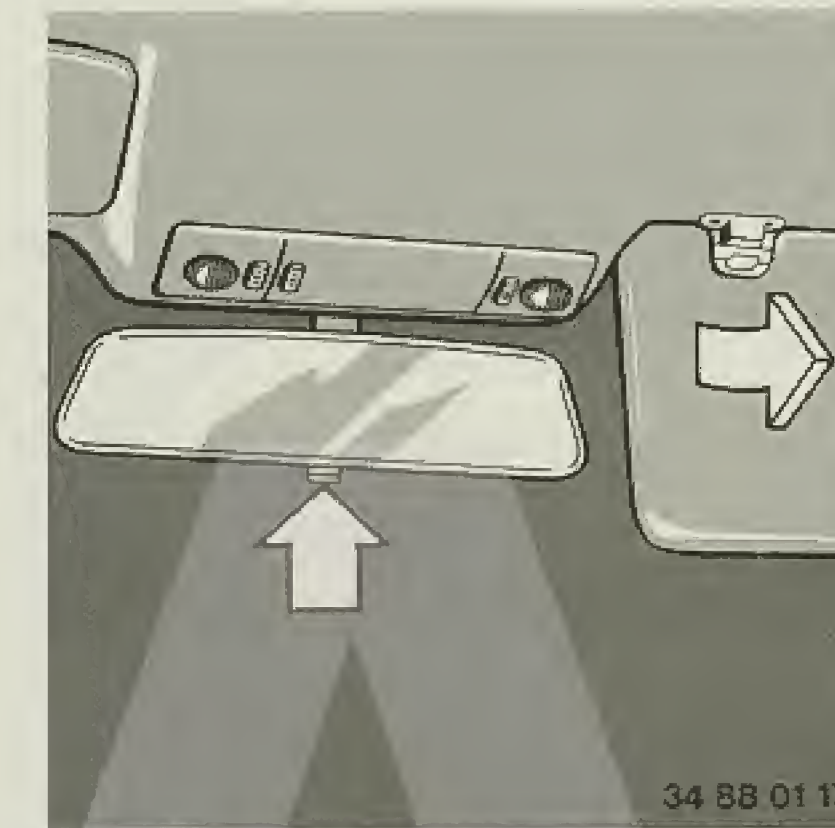
The outer section of the mirrors is convex and reflects an enlarged, but slightly distorted, area behind the car. The inner section of the mirrors reflects the rear-view area.

This improves the driver's range of rearward vision and eradicates the "blind spot" at the rear and side of the car.

Manual mirror operation

Reposition the mirror by moving the glass at the edges.

For mirror memory, see Page 15.



Inside mirror

Move the small lever to reduce the effect of glare from following cars' headlights when driving at night.

Inside mirror in conjunction with infrared-transmitter remote control

Turn the knob beneath the mirror.
Position 0: normal position.
Position I: anti-glare position.

Sun visors

These can be pivoted in front of the side windows if necessary. The make-up mirrors are located behind a sliding cover.

Make-up mirrors with light*

The light comes on when the sun visor is folded down and the car's lights are on. Slide the cover to one side as necessary.



Automatic-dip inside mirror*

This mirror dips automatically and steplessly in accordance with the intensity of the light received (ambient light and the effect of following headlights).

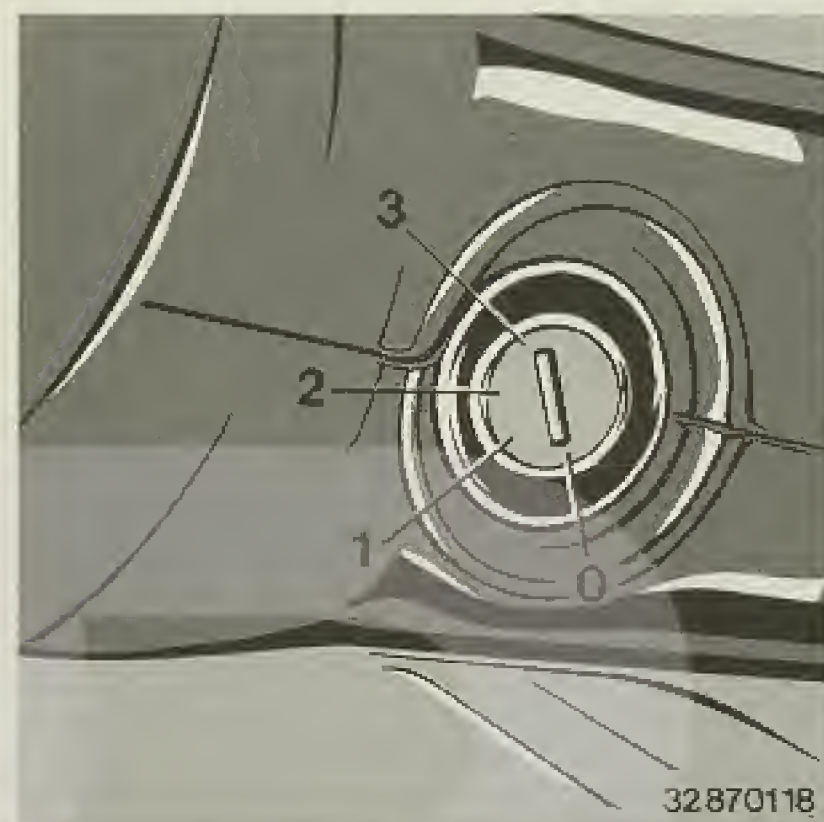
The mirror automatically switches to the standard, non-dimmed position when reverse gear is engaged.

Automatic-dip inside mirror in conjunction with infrared-transmitter remote control

Turn the knob beneath the mirror.
Position 0: automatic-dip function off.
Position I: automatic-dip function as described above.

Note:

Keep the photo-cells unobstructed and clean in order to preserve the mirror's function.



Ignition/starter switch and steering lock

- 0 – Steering locked.
The key can be inserted and removed in this position only.

All items of electrical equipment are switched off except for the following: side/parking lights, interior lighting, hazard warning flashers, electric seat adjustment, cigarette lighter.

To lock the steering, pull out the key and turn the steering wheel slightly until the lock engages.

To release the steering lock, it may be necessary to turn the steering wheel slightly.

- 1 – Steering unlocked.
Further electrical equipment such as the radio and on-board computer can be operated.
- 2 – Ignition switched on;
BMW 525td/tds: preheating on.
All other items of electrical equipment can be operated.

A well-charged battery is essential if electrically operated equipment is to operate reliably and full driving convenience be maintained. When the engine is idling or in the course of a short journey, the alternator only charges the battery very slightly. You are recommended to switch off electrical equipment with a high current consumption temporarily unless absolutely necessary, for example seat heating or heated rear window, in slow-speed city driving or nose-to-tail traffic.

To maintain various memories intact, a very slight current continues to flow. This should be remembered in particular when leaving the car out of use for more than four weeks. To prevent the battery from becoming drained if the car is to be left out of use for a lengthy period, it should be disconnected at the negative terminal (see Page 91).

- 3 – Starter motor operated.
Do not depress the accelerator pedal while starting the engine.

On cars with automatic transmission, the engine can only be started in selector lever positions P or N.

Important notes

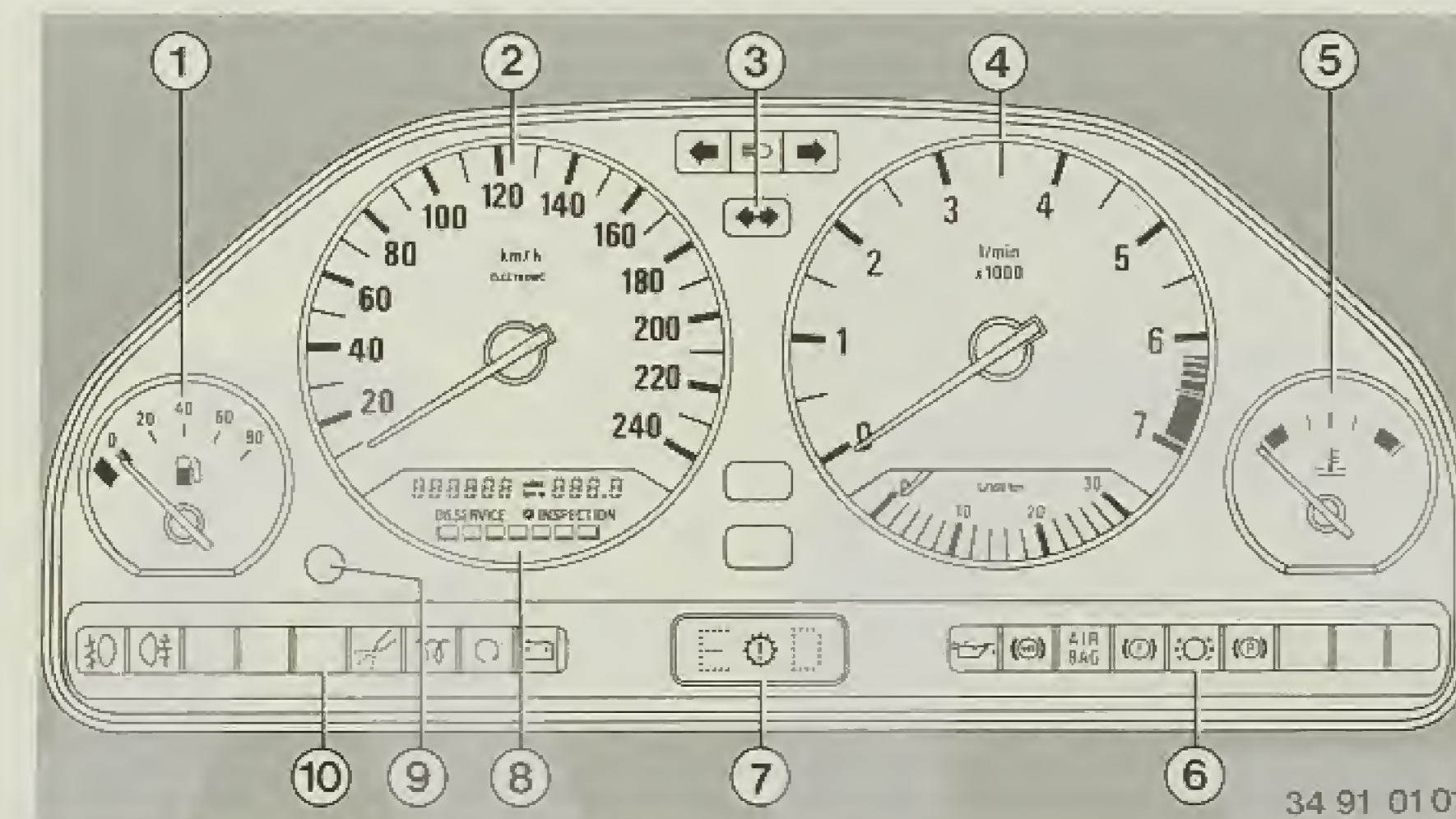
Warning:

Never run the car's engine in an enclosed space. The exhaust contains carbon monoxide which, although colourless and odourless, is extremely toxic. Inhaling exhaust gas constitutes a severe health risk and can lead to loss of consciousness with fatal consequences.

Never pull out the ignition key when the car is moving.

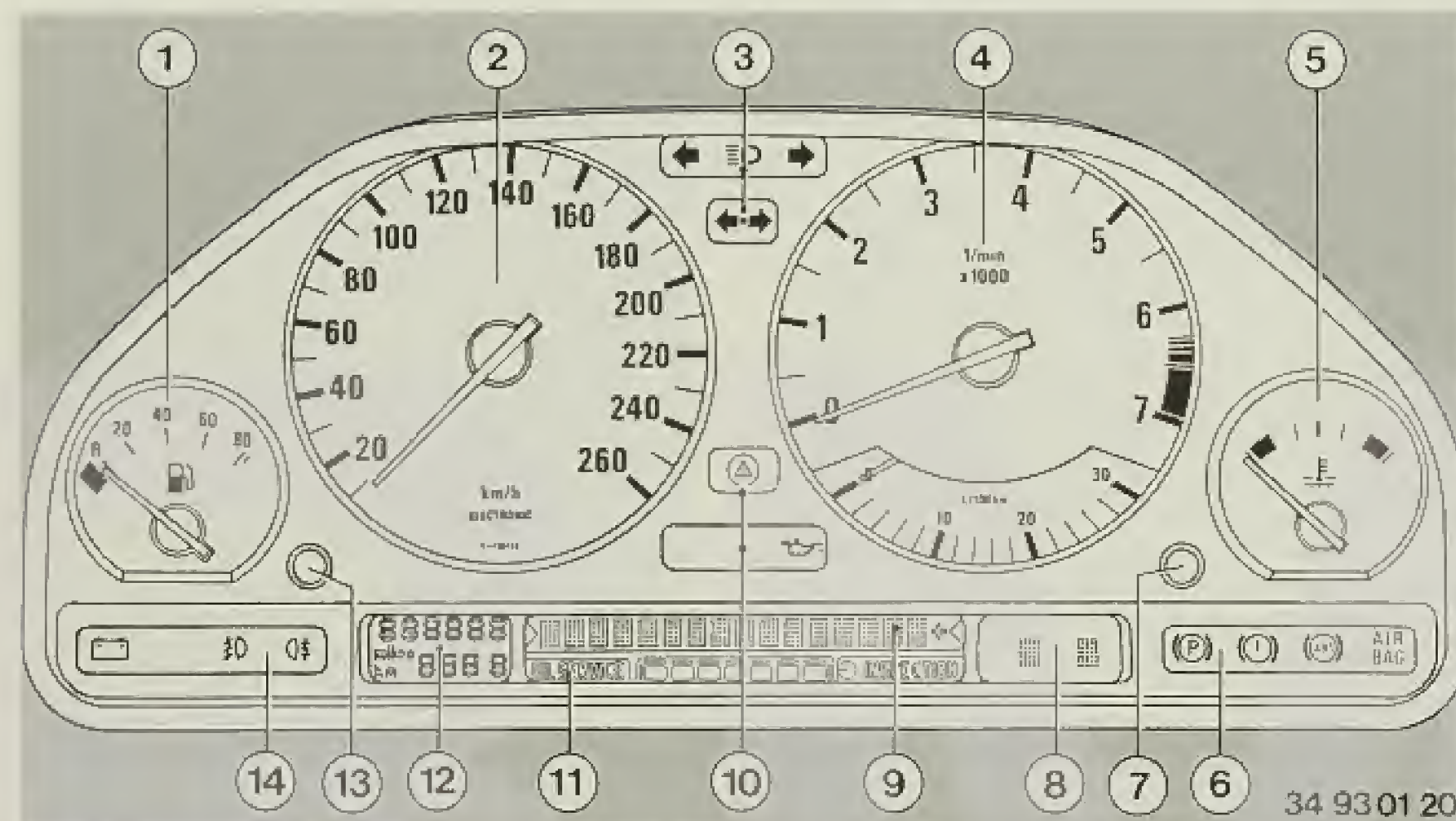
Otherwise, the ignition lock will engage and make it impossible to steer the car.

Always remove the ignition key and take it with you when leaving the car. Make sure that the steering lock has engaged.



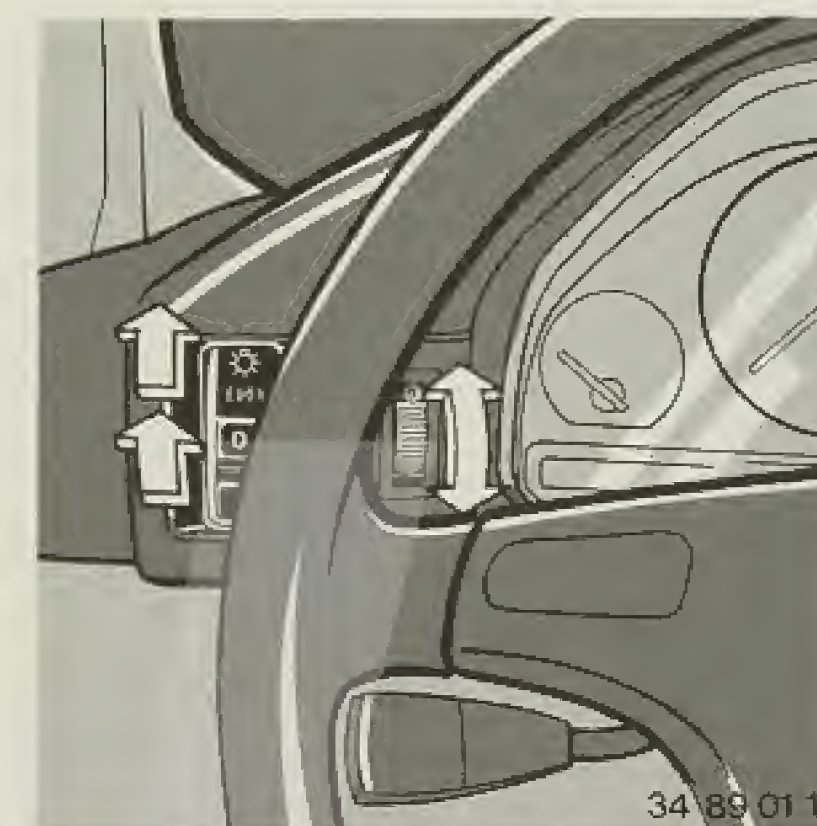
Instrument cluster

	Page
1 – Fuel gauge with telltale	34
2 – Speedometer	
3 – Turn indicator, high beam and trailer flasher telltales	35
4 – Revolution counter with Energy Control	33
5 – Coolant temperature gauge	34
6 – Warning lights for low engine oil pressure, ABS, airbag, brake hydraulics, brake pad wear and handbrake applied	25, 35
7 – Automatic transmission selector lever position indicator (with program indicator and telltale light for electronic shift control unit)	42
8 – Total and trip distance recorders, Service Interval indicator	33, 34
9 – Reset knob for trip distance recorder	33
10 – Front and rear fog light telltales and battery charge telltale; additionally on BMW 525td/tds: warning light for electronic fuel injection system control; telltale for preheating	36, 76, 99



Instrument cluster*

1 – Fuel gauge with telltale	34
2 – Speedometer	
3 – Turn indicator, high beam and trailer flasher telltales	35
4 – Revolution counter with Energy Control	33
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6 – Warning lamps for handbrake, brake hydraulics, antiblock braking system (ABS) and airbag	25, 35
7 – Check Control key	38
8 – Automatic transmission selector lever position lamps and program display	42
9 – Check Control display	38
10 – Engine oil pressure warning lamp, telltale for ASC+T and electronic differential system on BMW 525iX	36, 40
11 – Service Indicator	34
12 – Total and trip distance recorders	33
13 – Reset knob for trip distance recorder	33
14 – Battery charge and front and rear fog light telltales	36



Main light switch

Stage 1: side lights
Stage 2: low headlight beams

If the ignition is switched off with the headlights on, they will go out, but the side lights will remain on.

Cars without Check Control:

When the ignition key is turned back to 0, a buzzer sounds for a few seconds as a reminder that the main light switch is on.

The buzzer can be switched off by pressing the trip distance recorder reset knob.

Cars with Check Control:

The reminder appears on the Check Control display.

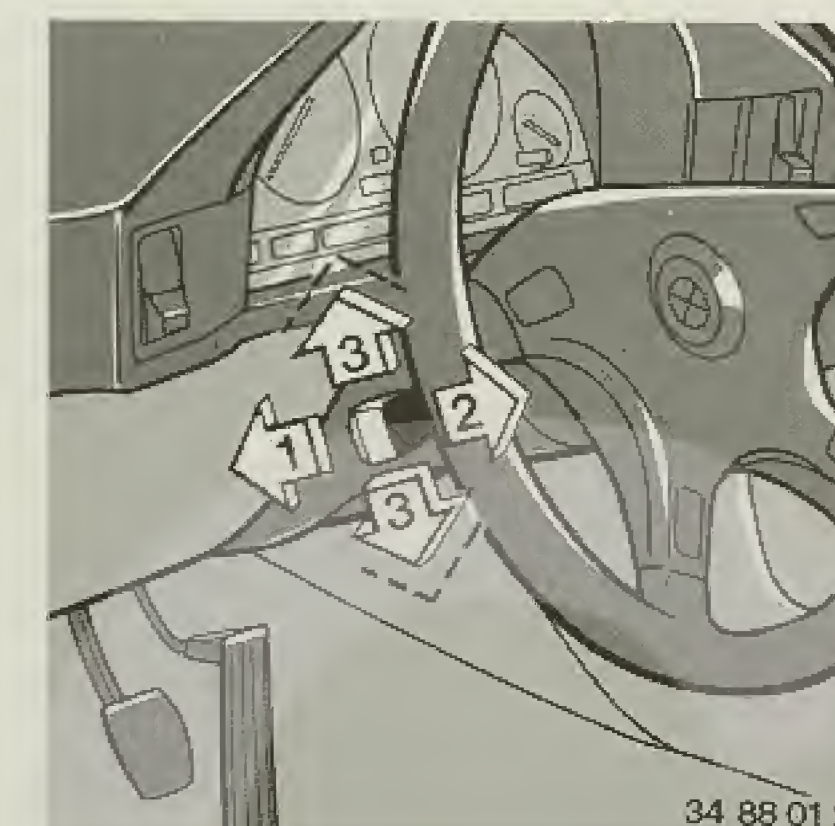
Instrument lighting

Turn the knurled wheel to adjust the light intensity.

Daytime lights setting*

If desired, the light switch can remain at stage 2: when the ignition is turned off, the vehicle lights go out.

Depending on version, the daytime lights come on automatically in ignition key position 2 even if the light switch is at 0.



Turn indicator and high/low beam lever

- 1 – High headlight beam (blue telltale)
- 2 – Headlight flasher
- 3 – Turn indicators (green telltale lamp flashes and the flasher relay emits a ticking sound).

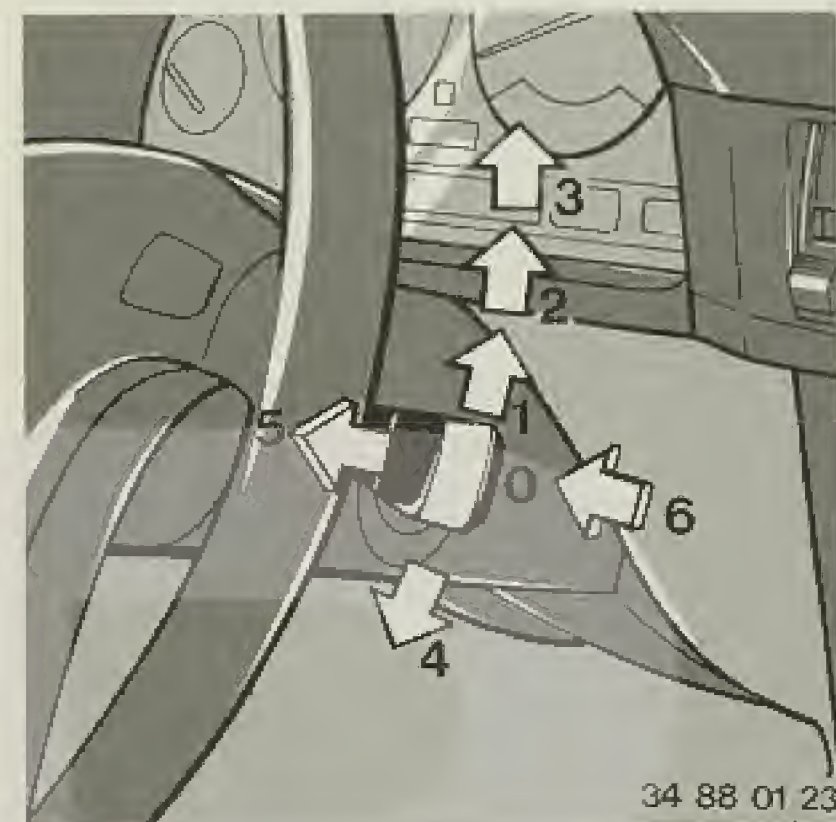
If the telltale lamp flashes faster and the ticking occurs more rapidly than normal, one of the turn indicator bulbs has blown.

Brief operation of turn indicators

When pulling away from the roadside or changing lanes, you need only move the lever slightly away from its rest position. When released, it will cancel immediately.

Parking lights, right or left

Move the turn indicator lever beyond the normal indicating position and allow it to engage.



Wash/wipe system

- 1 – Intermittent wipe
- 2 – Normal wiper speed
- 3 – Fast wiper speed
- 4 – Short wipe
- 5 – Automatic windscreen wash
- 6 – Automatic intensive cleaning

Cleaning system* for headlights and front fog lights

Every fifth time the automatic windscreen wash or intensive cleaning system is activated, the headlights are also simultaneously cleaned if the vehicle lights are switched on.

Reservoir: see Page 89.

1 – Intermittent action

The interval depends on vehicle speed. If facility for programming is available:* Move briefly to position 1 from position 0 to program the interval period.

The time before the wipers are again switched on (from position 0 to position 1) is the programmed interval (max. 20 s, twice as long when the car is standing still). To cancel the programmed interval, return the lever to 0 or switch off the engine.

2 – Normal wiper speed

The wipers operate intermittently when the car is standing still.

5 – Automatic windscreen wash

Washing water is sprayed onto the windscreen and the wipers are operated briefly. (Exception: when the lever is actuated briefly, washing water is sprayed onto the windscreen without the windscreen wipers coming on.)

6 – Automatic intensive cleaning

As function 5, with intensive cleaning fluid additionally sprayed onto the windscreen first.

Heated windscreen washer jets*:

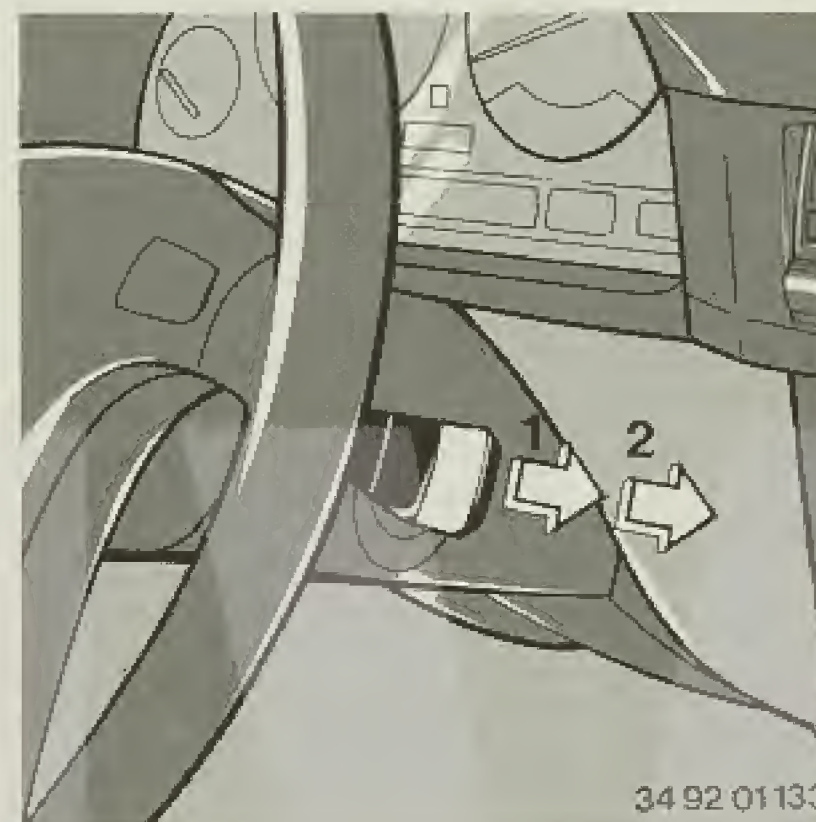
switched on automatically when ignition key is in position 2.

Warning:

Do not use the windscreen washer if there is any chance of the liquid freezing to the glass and interfering with your view of the road and traffic ahead.

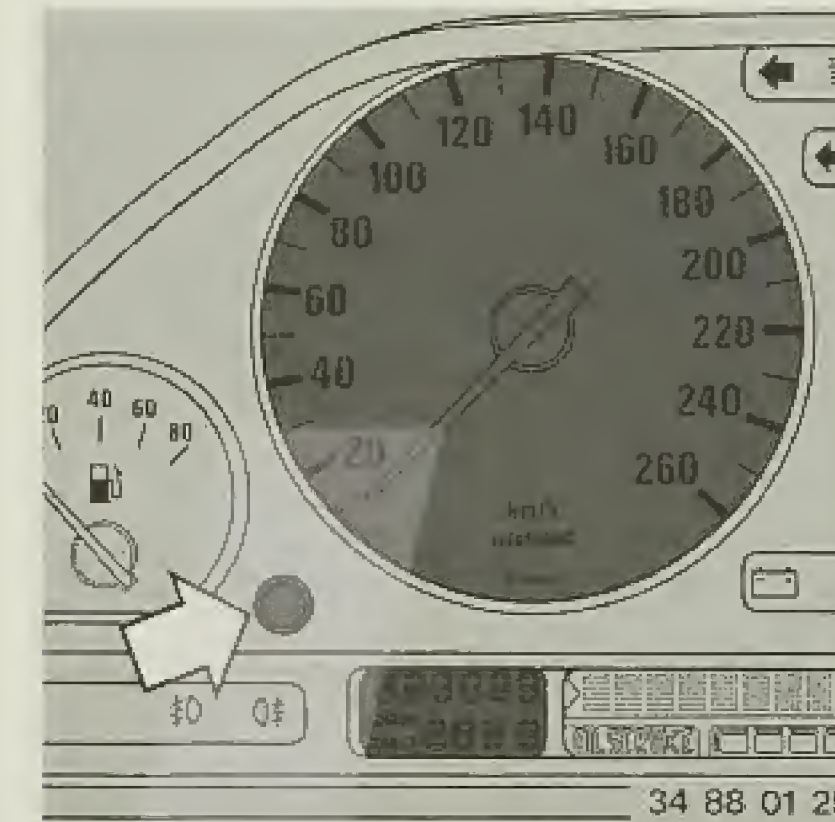
Do not operate the windscreen washer when its fluid reservoir is empty, or else the pump will be damaged.

Detach wiper blades which have frozen to the glass before operating the windscreen wipers, to avoid overloading or damaging the system.



BMW touring

- 1 – Intermittent setting for rear-window wipers
 - 2 – Automatic cleaning system for rear window (one-touch function)
- Reservoir: see Page 89.



Distance recorder

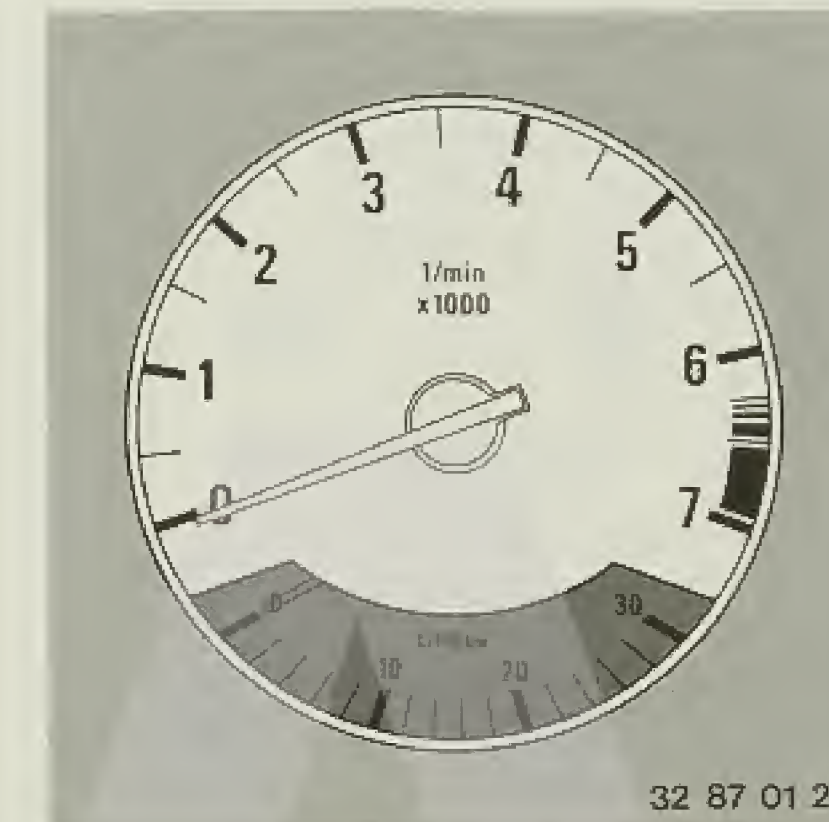
This shows the total number of kilometres or miles covered by the car.

Trip recorder

Records journey distances up to 999.9 km or miles.

Press the button to reset to zero (ignition key turned to position 1 or further).

To display the distance recorder or trip distance recorder total with the ignition key removed or in position 0, press the reset button; the total will be displayed for a brief period.



Revolution counter

Avoid engine speeds in the red warning zone.

The fuel supply is interrupted in this zone to protect the engine, which runs unevenly as a result.

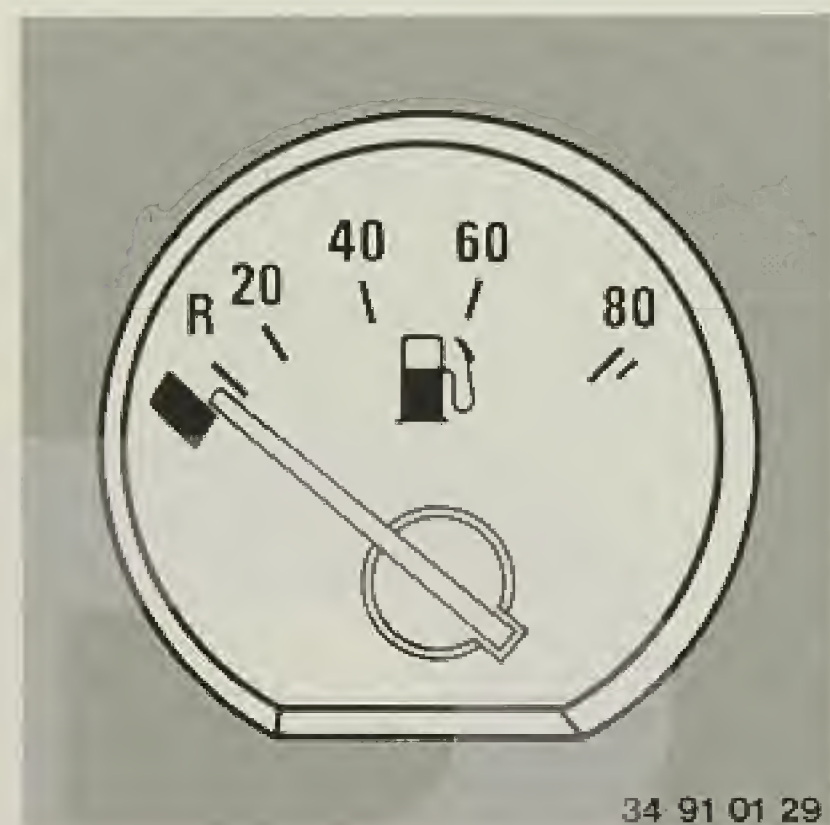


Energy Control

Shows fuel consumption in litres per 100 km.

The dial clearly indicates whether the car is being driven economically or not.

When the car is idling, the needle will drift to the top end of the scale.

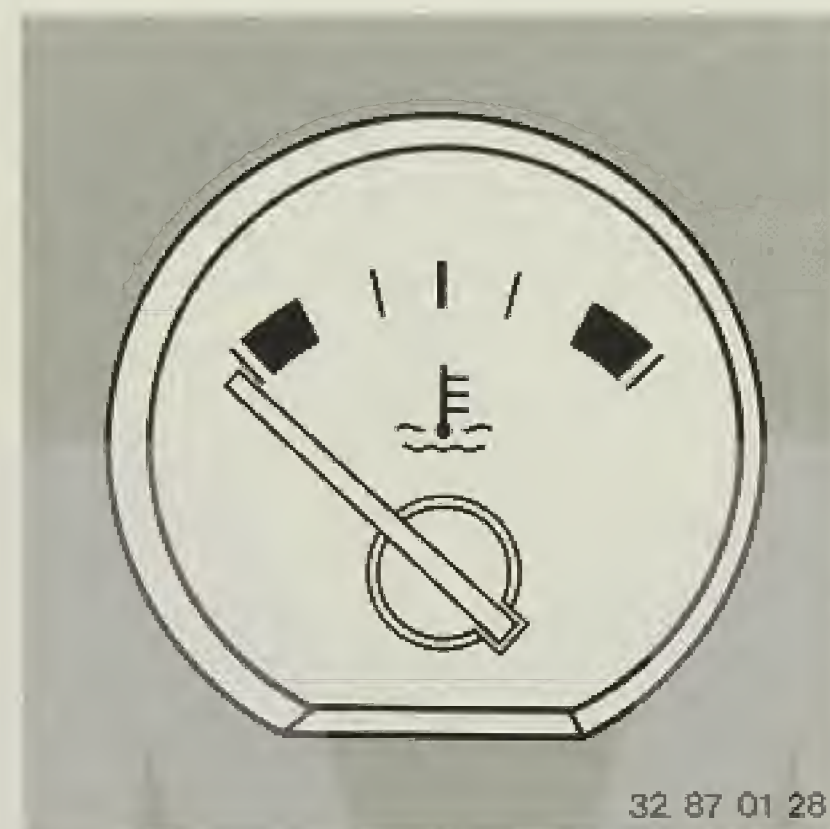


34 91 01 29

Fuel gauge

The telltale lamp comes on to indicate that there are app. 8 litres (1.75 Imp. gal) of fuel remaining in the tank.

After the ignition has been switched on, the telltale light remains on for a short period to confirm that it is operating correctly.



32 87 01 28

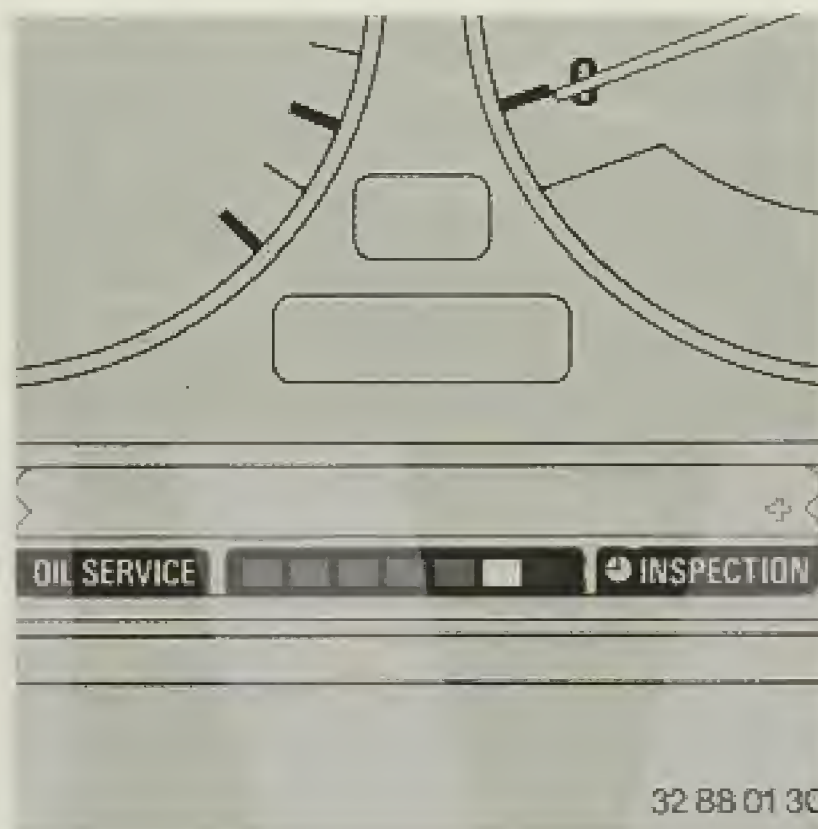
Coolant temperature gauge

Blue: engine cold. Drive at moderate engine and road speeds.

Red, "COOLANT TEMP" warning (in Check Control): engine too hot. Stop the engine immediately and allow it to cool down.

Between the two coloured zones: normal operating temperature. If outside temperatures are very high or the engine has been working very hard, the needle may approach the red zone.

Checking coolant level, see page 88.



32 88 01 30

Service Indicator

Green light-emitting diodes (LED): the fewer are on, the sooner the next service will be due.

Yellow LED in conjunction with OILSERVICE or INSPECTION: comes on when the next service routine is due.

Red LED: a service routine is overdue.

Clock symbol in conjunction with INSPECTION: shows that brake fluid renewal is due.

Note:

Periods during which the battery has been disconnected are ignored by the display. Any such times must be taken into account to ensure that the brake fluid is changed according to schedule (every two years), i.e. it

will be necessary to change the brake fluid before the clock symbol lights up.

All displays go out when the engine is started.

The Service Indicator is reset by the BMW service station after the appropriate work has been performed.

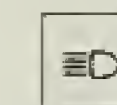
For further notes, see the Service Booklet.

Telltale and warning lamps



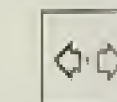
Left/right flashing turn indicators

Flashes in the same rhythm as the turn indicators when these are being operated.



High headlight beam

Comes on when the high-beam headlights are on and when the headlight flasher is operated.



Trailer turn indicators*

Operates together with the vehicle turn indicator telltale when towing a trailer.

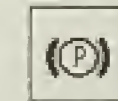
For further notes see Page 117.



Brake lining wear

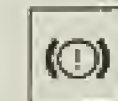
Comes on when the ignition is turned on and goes out after the engine has started. If the lamp comes on during a journey, renew the brake linings immediately.

Warning: only use brake linings approved by BMW, as the General Operating Permit will otherwise be invalidated.



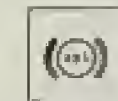
Handbrake

Goes out after the engine has started. Comes on when the handbrake is applied.



Brake hydraulics

Goes out after the engine has started. If the lamp comes on during a journey, brake fluid level is too low. For further notes see Pages 87 and 98.



Antilock braking system (ABS)

Goes out after the engine has started. If the lamp comes on during a journey, the ABS is faulty and out of operation. The brakes can be operated conventionally, with no loss of effect.

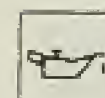
For further notes see Page 120.



Fasten seat belt*

(Possibly together with acoustic signal and/or Check Control message*)

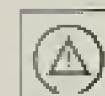
Comes on briefly when the ignition is switched on, then goes out (depending on version, only after the seat belt has been fastened).



Engine oil pressure

Goes out after the engine has started. It may come on when the engine is idling if hot, but must then go out as engine speed increases.

If the lamp comes on during a journey and the ENGINE OIL PRESS display is shown by the Check Control, stop the car immediately and switch off the engine. Check the engine oil level and add more oil if necessary. If the oil level is correct, consult a BMW service station.



a) ASC+T = Automatic Stability plus Traction Control

b) BMW 525iX: electronic differential lock system

a) Further notes: see Page 40

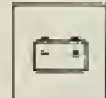
b) Telltale lamp flashes:

Differential lock system active as a result of performance conditions or surface properties.

Telltale comes on:

The system is faulty, but the car can be driven normally without the differential lock action. Contact a BMW service station to have the system repaired.

Minor, temporary faults can be rectified by the system self-test function by repeatedly starting the engine.



Battery charge

Goes out after the engine has started.

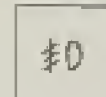
If the lamp comes on during a journey, there is a fault at the alternator V-belt or in the charging circuit so that the battery is not being charged.

Warning:

If the V-belt is faulty, the coolant pump is no longer being driven and there is a risk of the engine overheating and becoming damaged.

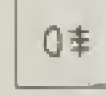
Consult a BMW service station.

If the V-belt is defective, steering effort will be greatly increased.



Front fog lights*

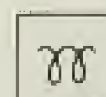
Comes on when the front fog lights are switched on.



Rear fog lights

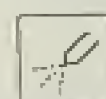
Comes on when the rear fog lights are switched on.

BMW 525td/tds



Preheating

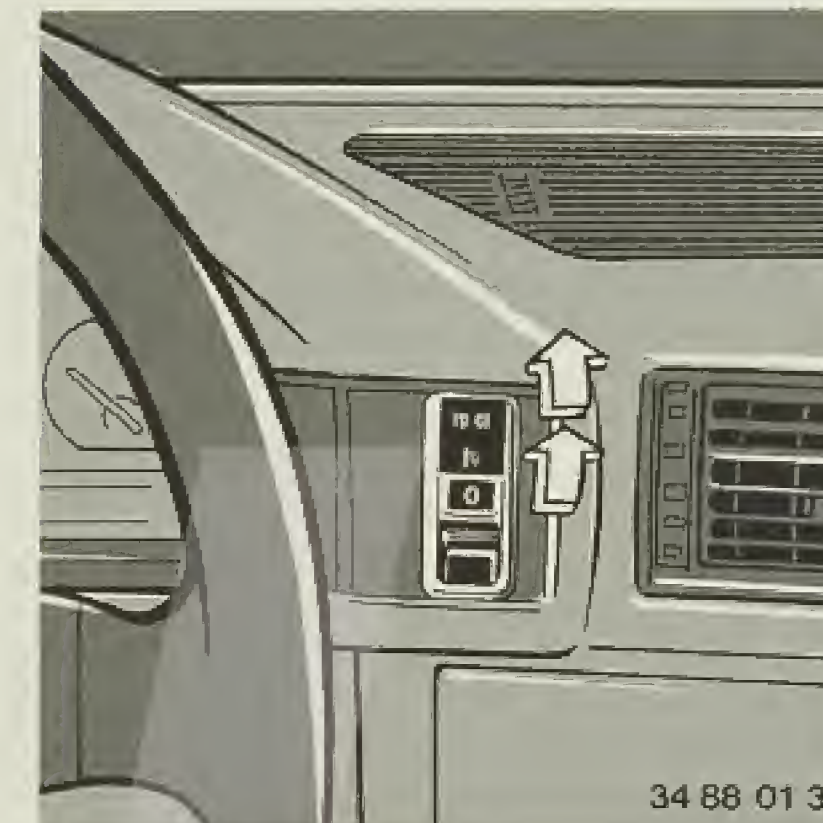
For further notes, see Page 76.



Electronic fuel injection control

Comes on for a few seconds in ignition key position 2 (preheating).

For further information, see Page 99.



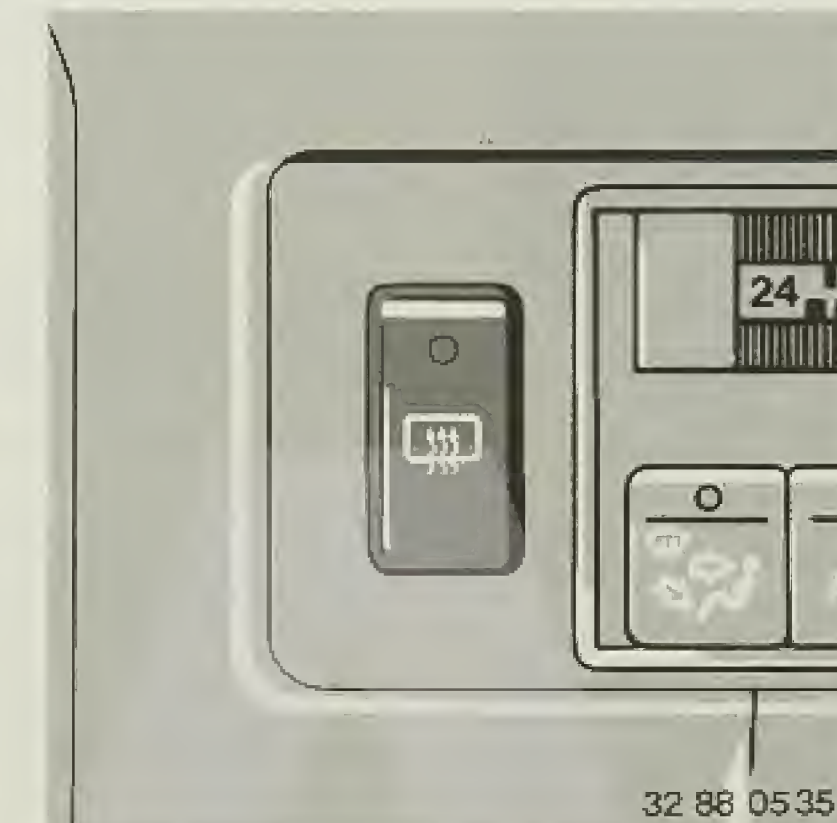
Front fog lights*

The green telltale lamp in the instrument cluster comes on when the front fog lights are switched on.

Rear fog lights

The yellow telltale lamp in the instrument cluster comes on when the rear fog lights are switched on.

Please note national regulations with regard to the use of fog lights.



Heated rear window

Press the button: the heating circuit runs at its full output rating when the telltale lamp is on (for rapid defrosting).

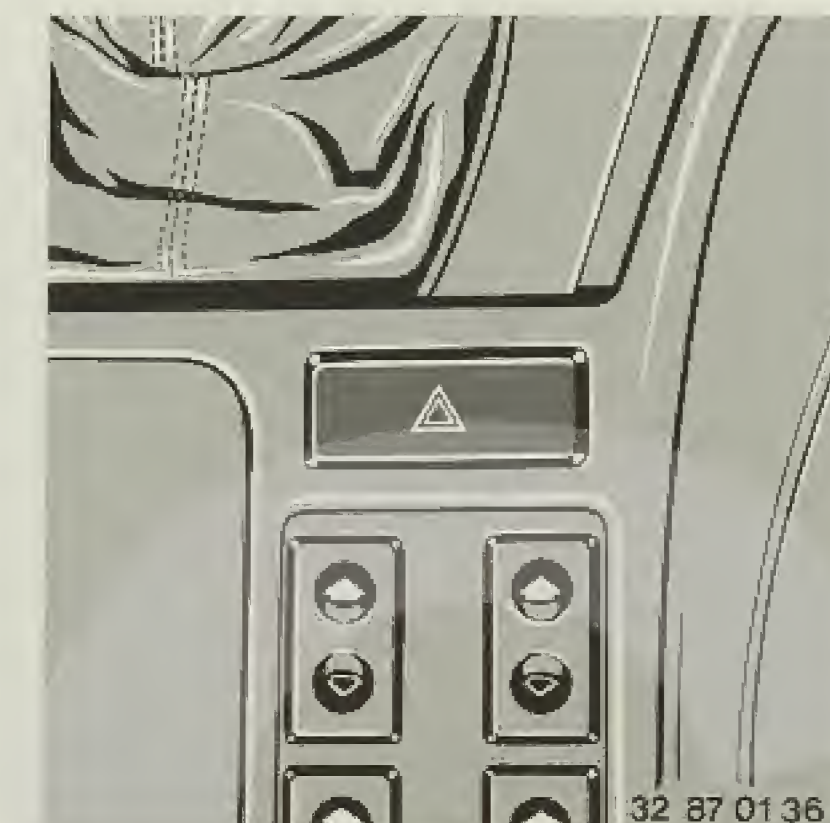
Vehicles with air conditioning or automatic air conditioning:

When the lamp goes out, the circuit has switched over to the economy rating, and switches off completely after app. 20 minutes.

If necessary, press the button again: a new operating cycle commences with rapid defrosting as before.

To switch off, press the button again when the lamp is on.

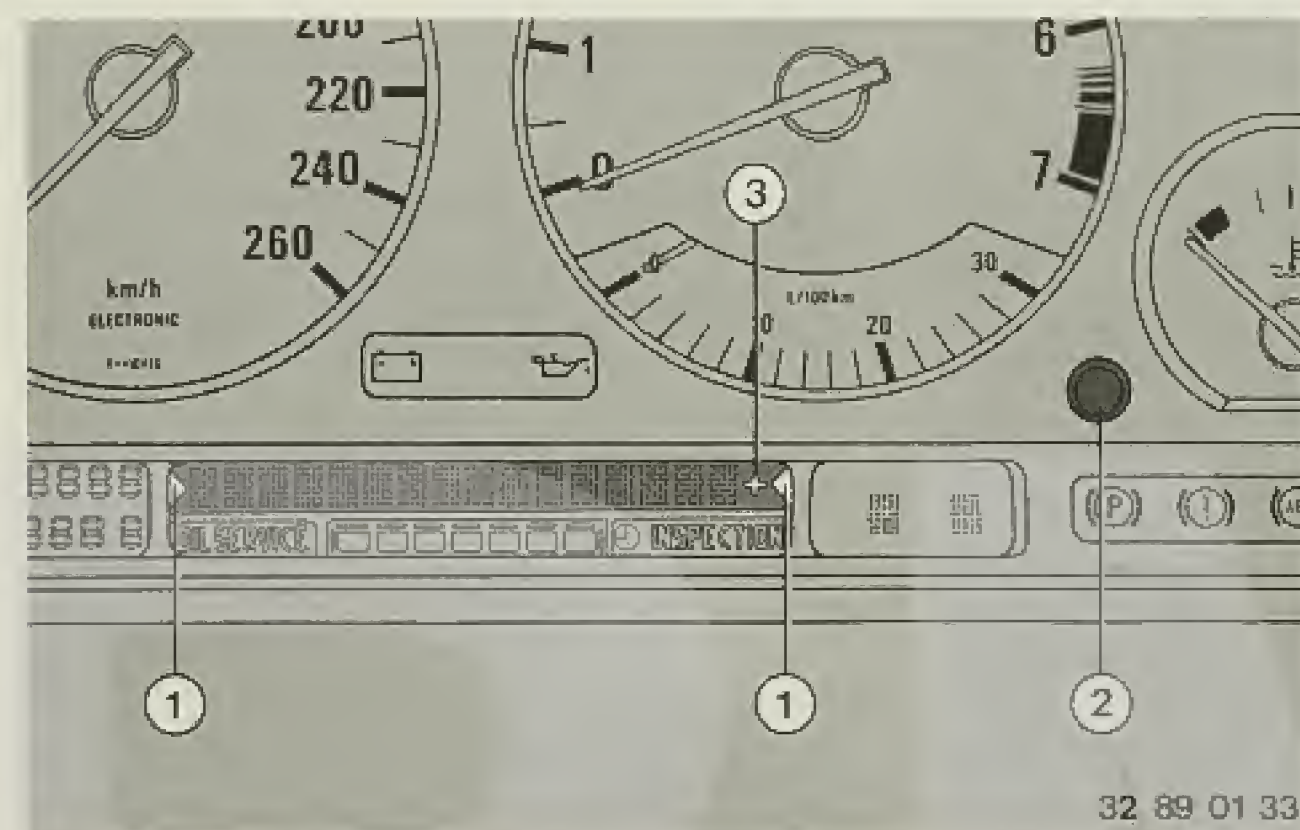
Every time the engine is restarted, the rear window heating has to be switched on again as required.



Hazard warning flashers:

The red telltale lamp in the pushbutton with the triangle symbol flashes rhythmically when the hazard warning flashers are switched on.

When the car's lights are switched on, a locating bulb comes on in the pushbutton for the hazard warning flashers.



Check Control*

The following system faults are displayed in the form of inscriptions, and a gong warning is sounded.

A distinction is made between three levels of priority.

Priority 1 Display

Display	Instruction/remedy
LOW BRAKE FLUID	Level fallen to MIN/top up at next opportunity, see Pages 87, 98. Have the cause of brake fluid loss rectified by a BMW service station.
ENGINE OIL PRESS	Too low/stop car and switch off engine at once. See Pages 36, 85
COOLANT TEMP	Coolant temperature too high/stop car and switch off engine at once. See Pages 34, 88
HANDBRAKE ON	Displayed after a minimum road speed has been exceeded
NO BRAKE LIGHT	Brake light failure – bulbs failed or fuse blown/renew bulbs or fuse (see Page 102 or 92)
BRAKE LIGHT (ELECTR.)	Brake light failure – fuse blown or circuit fault/renew fuse (see Page 92) or consult BMW service station.

SUSPN LEVELLING* Car is overloaded (rear-axle load limit exceeded) or self-levelling suspension has a fault/reduce load on car or consult a BMW service station (do not drive at more than 170 km/h [106 mile/h]) – see Page 99.

Note: the SUSPN LEVELLING display alternates with a "Max. 170 km/h" warning if this speed is exceeded. The warning is cancelled if the car's speed is reduced sufficiently below this speed.

SPEED LIMIT* Displayed if the legal road speed limit is exceeded. Comply with local regulations.

The above faults are displayed immediately, accompanied by a warning gong and flashing **warning symbol ①**.

If more than one fault occurs at once, the displays are shown in succession. These displays cannot be cancelled with the **Check Control (CC) key ②**.

Priority 2 Display

Display	Instruction/remedy
TRANS PROGRAM*	Automatic transmission: defect in shift electronics/see Page 44
BRAKE LININGS	Worn/see Page 98
WASHER FLUID	Top up at the earliest opportunity/see page 89
LOW	Bulb blown/see Page 102
BRAKE LIGHT	Bulb blown, fuse blown or circuit defective/see Pages 101 or 92, or consult BMW service station
DIP BEAM	Trailer lighting fuse blown or circuit failure/renew fuse or consult BMW service station
TAIL LIGHT	
LIC. PLATE LIGHT	
TRAILER LIGHT	

The displays appear when the ignition key is in position 2 (if priority 1 faults occur, these are automatically superimposed). After the display has gone out, the reminder symbol remains. If a **plus sign ③** appears, this means that there are further displays which should be called up by pressing the CC key.

Note: with the CC key, displays can be cancelled before automatic cancelling takes place, and other stored displays indicated by symbols can be called up.

Priority 3 Display

Display	Instruction/remedy
ENGINE OIL LOW*	Engine oil level has dropped to MIN/ check oil level and top up at next opportunity (when re-fuelling), see Page 85
COOLANT LEVEL	Coolant is too low/top up at next opportunity, see Page 88
OIL LEVEL SENSOR*	Sensor for engine oil level faulty/consult BMW service station at the next opportunity. Important: low oil level is not indicated until this fault is rectified!
CHECK CONTROL	Electronics defect, various announcements cannot be indicated/consult BMW service station at the next opportunity
LIGHTS ON?*	Displayed at end of journey (when driver's door is opened)
FASTEN SEAT BELT*	Possibly together with warning light*and/or acoustic signal*.

The displays primarily appear at the end of the journey, when the ignition key has been turned back to position 0; several displays may appear in succession, with priority 3 displays shown after priority 2 and 1 displays. Even after removing the ignition key, when the display has gone out, the information can be called up again with the CC key for about another 3 minutes.

Displays also appear before the journey starts, when the ignition key is turned to position 2; they disappear after a short time or when the journey is started, and no reminder symbols remain. A repeat display appears only when the ignition is returned to position 0.

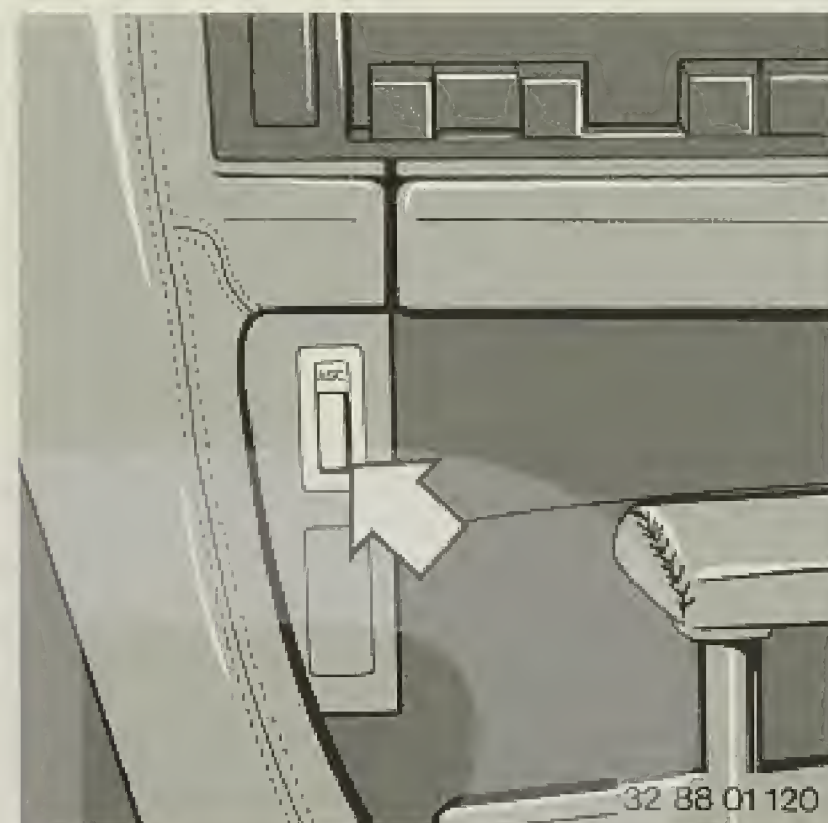
If a plus sign appears: call up further displays by pressing the CC key.

General information:

If the OWNER'S HANDBOOK display appears, see "Instruction/remedy" for notes on the display concerned.

The "Owner's Handbook" display can be cancelled by pressing the CC key.

Checking operation of the Check Control display (only if no messages displayed): Press the CC key with ignition key in position 2: the display CHECK CONTROL OK must appear.



ASC+T-Automatic Stability plus Traction Control*

This system prevents the driven wheels from spinning even if road conditions are poor (e.g. slippery surfaces), and ensures maximum traction and grip within the limits imposed by the physical laws acting on the car.

The system is ready to operate whenever the engine is started.

The telltale light in the instrument cluster goes out after the engine has been started.

To switch off the system:

Press the button; the telltale light will come on.

To switch the system on again:

Press the button a second time; the telltale light will go out.

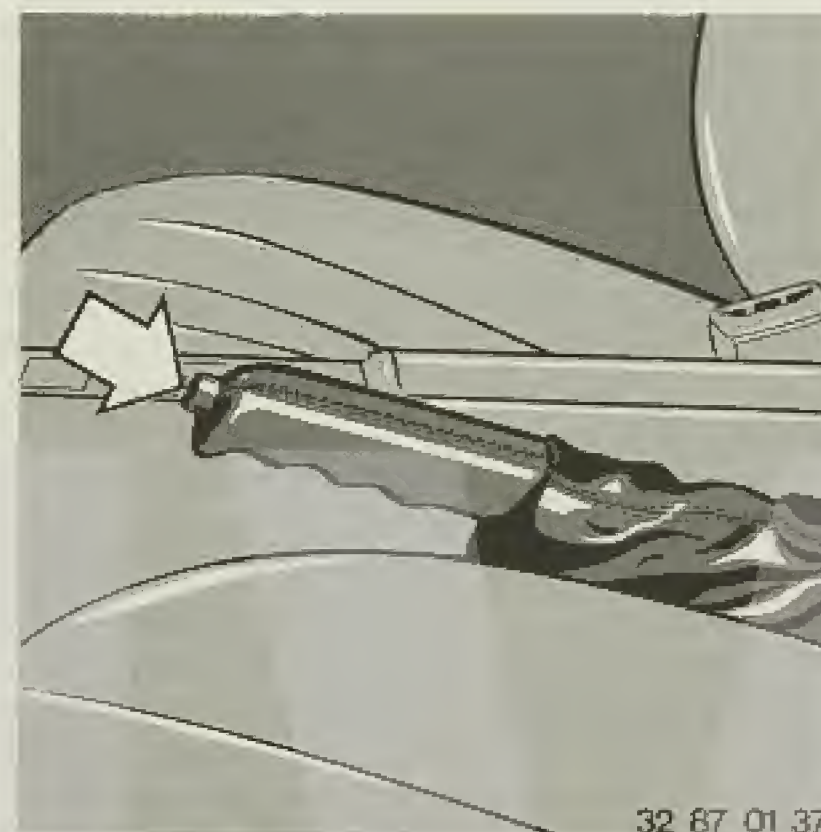
If the telltale light flashes:

The system is active, that is to say it is compensating for fluctuations in traction caused by the road surface.

If the telltale light does not go out after the engine has been started or comes on during the journey:

The system is defective, but the car itself is fully operational with the exception of the ASC+T stability control function. Consult a BMW service station regarding repair of the fault.

For further information, see Page 121.



Handbrake

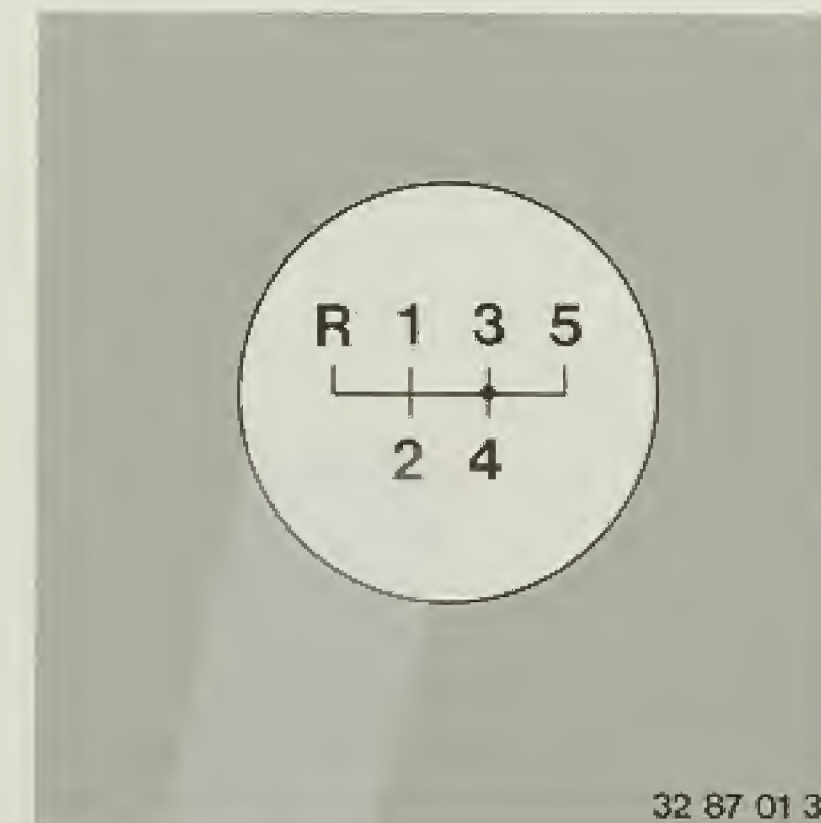
The handbrake engages automatically when pulled up, and the "P" telltale lamp in the instrument cluster comes on.

To release the handbrake, pull the lever up slightly, press in the knob and push the lever fully down.

The handbrake acts on the rear wheels. Do not apply it too hard when the car is being driven, to avoid excessive rear-wheel braking and the possibility of the rear of the car skidding.

Note:

The brake lights do not come on when the handbrake is applied.



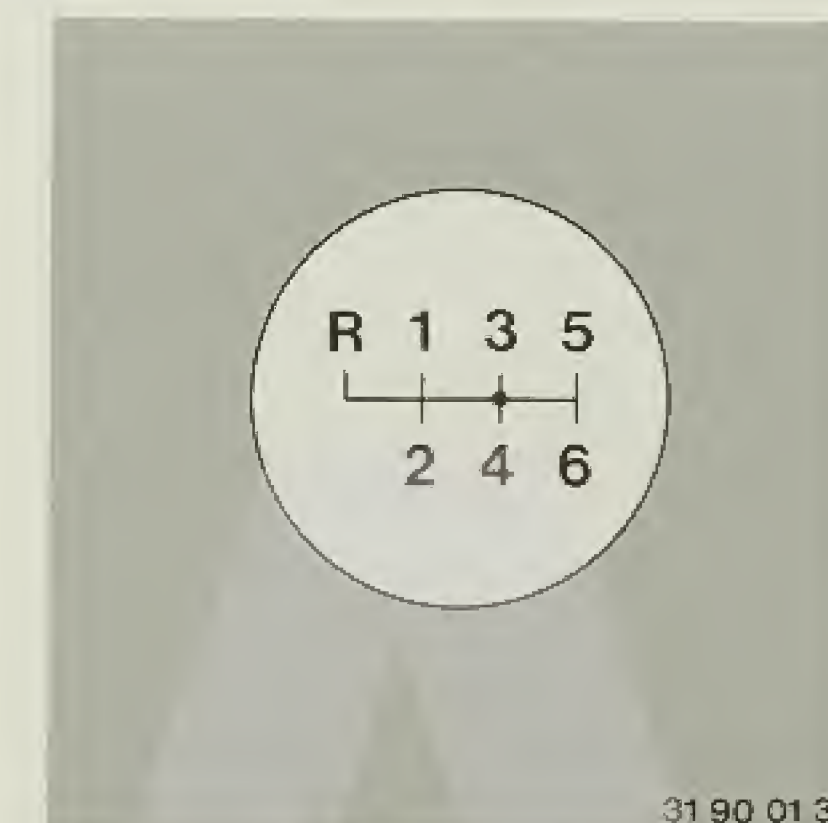
Manual gearbox

The rest position for the gear lever is in the 3rd/4th gear plane. When the lever is moved out of gear, it springs automatically to the rest (neutral) position.

All ratios are equipped with synchromesh.

Warning – All models except BMW 540i:

At an engine speed of greater than 5000 min⁻¹ (spark-ignition engines) or 3800 min⁻¹ (diesel engines) in 5th gear, do not shift back down to 4th gear, otherwise you risk causing damage to the engine.



Warning – BMW 540i

Make quite sure that the gear lever is pressed to the right when attempting to select 5th or 6th gear, to prevent 3rd or 4th gear from being selected in error.

If engine speed is above 5000/min in 6th gear, do not shift down to 5th gear, or damage to the engine may result.

Selecting reverse

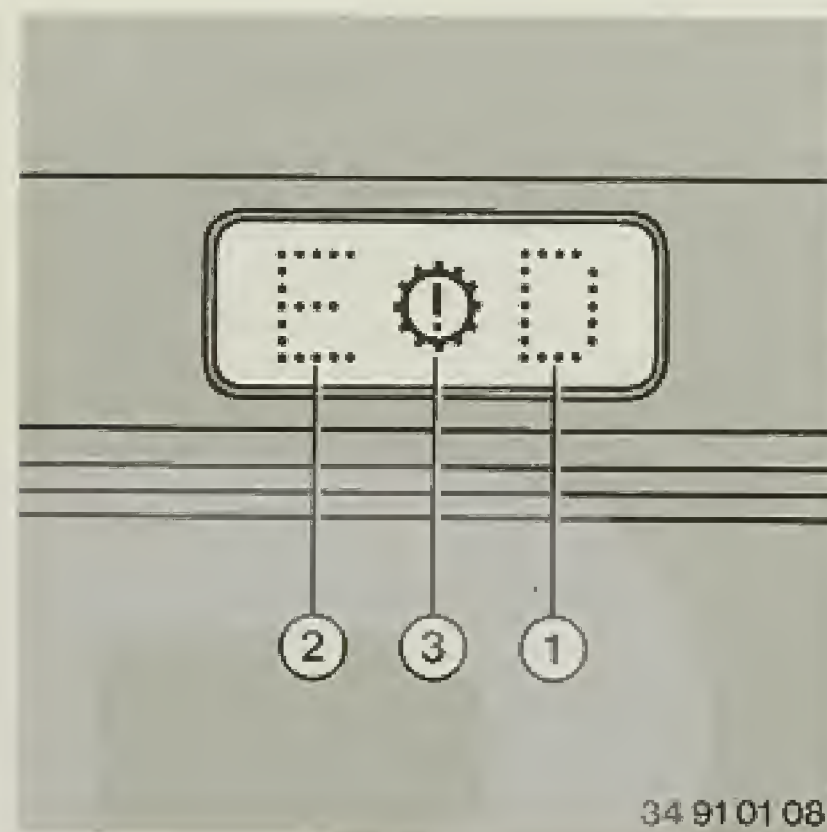
With the car standing still, press the gear lever to the left until the slight resistance is overcome.

Reversing lights

These come on when reverse gear is selected and the ignition is switched on.

Warning:

On a gradient, do not try to keep the car still by slipping the clutch. Always apply the handbrake. A slipping clutch will suffer premature and excessive wear.



Automatic transmission*

Selector lever positions (1):

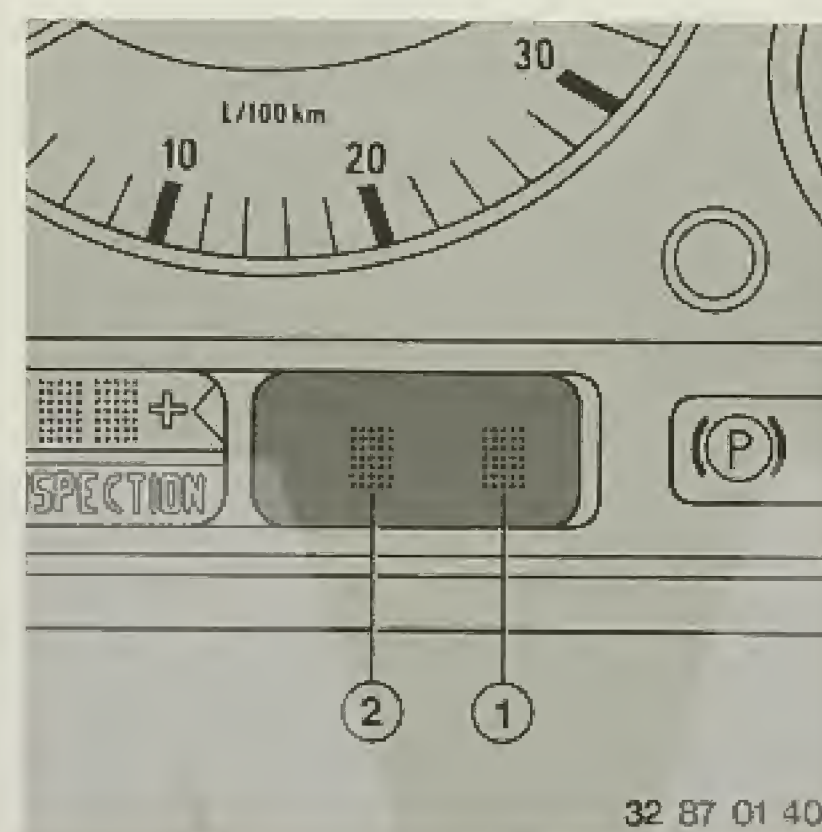
BMW 518i, 525td:
P R N D 3 2 1

BMW 520i, 525i/iX, 530i, 540i, 525tds:
P R N D 4 3 2

In addition, 3 different shift programs (2) can be selected at the program switch:

E (Economy) – press switch
S (Sport) – push switch in
M (Manual) – desired direction
or
* (Winter)

See next page for notes on the shift programs.



Please note:

The engine can be started in position P or N only.

There is a safety catch under the selector lever handle which prevents accidental movement of the lever to certain positions. Press the catch in to permit further lever movement.

After selecting a speed range, wait for the transmission to engage before accelerating.

The car tends to creep forwards (or backwards) if the engine is running at idle speed and a drive ratio is engaged.

If you shift accidentally from a drive ratio to N, always take your foot off the accelerator pedal immediately and then select the desired ratio.

Before leaving the car with the engine running, first select P or N and engage the handbrake.



P – Park

Select only when the car is standing still. The rear wheels are locked to prevent the car rolling away.

R – Reverse

Select only when the car is standing still and the engine is idling.

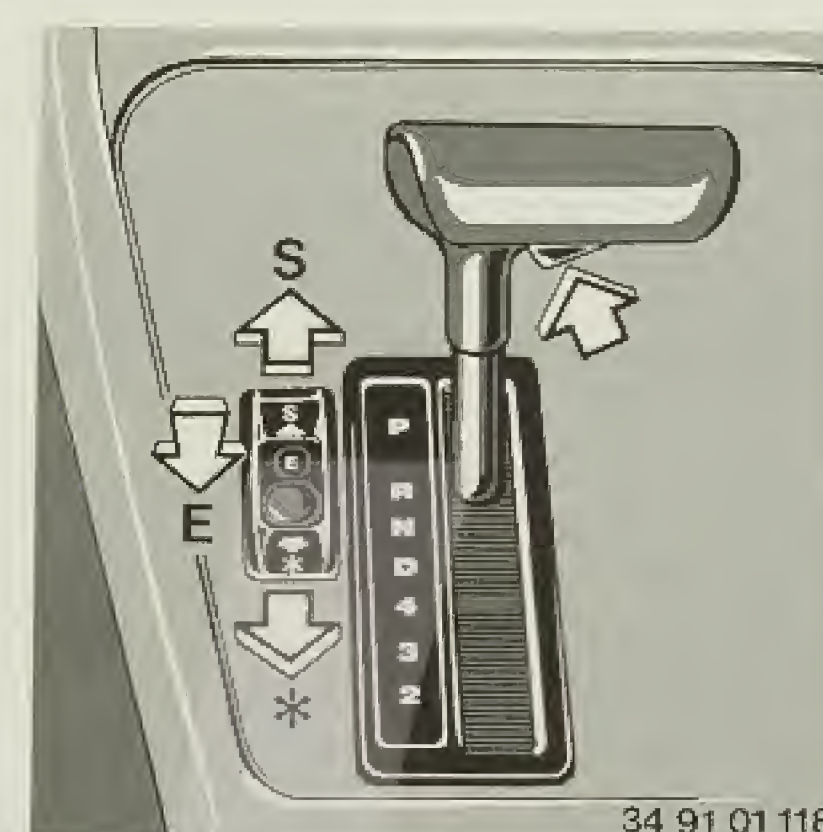
N – Neutral (idling)

Select only when the car is stopped with the engine running for any length of time.

When the car is moving, select N only to counteract skidding.

D – Drive (automatic)

The normal driving position with automatic transmission. All forward gears are selected as required.



3 – Direct drive (BMW 518i, 525td)

4 – Direct drive (BMW 520i, 525i/iX, 530i, 540i, 525tds)

Select this position when in position D if road or traffic conditions cause the transmission to hunt between 4th and 3rd gears (BMW 518i, 525td) or 5th and 4th gears (BMW 520i, 525i/iX, 530i, 540i, 525tds). BMW 525tds: the top speed is reached in 4th gear. You should therefore select this gear if you wish to drive at top speed.

2 and 1 – Hill-climbing and engine braking (BMW 518i, 525td)

3 and 2* – Hill-climbing and engine braking (BMW 520i, 525i/iX, 530i, 540i, 525tds)

Select these positions on mountain roads and very long uphill and downhill gradients. They make better use of the engine's performance and braking action, and prevent unnecessary up-shifts.

On the BMW 518i and 525td, these positions may not be selected at speeds of greater than 170 km/h (106 mile/h).

On the BMW 520i, 525i/iX, 530i, 540i and 525tds, these positions can be selected at any speed. In each case, the transmission will only shift down when a suitably low speed is reached.

Kickdown

The accelerator pedal can be depressed beyond the full-throttle position by overcoming a detent.

Up to a certain speed range, the next-lower ratio is selected to provide improved acceleration. The next upward shift does not take place until a much higher engine speed has been reached.

* 1st gear is selected automatically. By virtue of its special settings, this position is particularly suitable for trailer towing.

Transmission programs

E – Economy program

After starting the car, select this program for low-consumption motoring.

S – Sports program

This is the program for an enthusiastic driving style. Upward gear shifts are delayed to make fuller use of the engine's power output.

M – Manual program

For driving conditions in which the selected gear is to be held. In other words, the car also pulls away in this gear, and does not shift down when the car is accelerated. When this program is selected, the car travels only in 3rd gear in position D.

On inclines or when towing a trailer, for example, it is beneficial to drive in selector lever position 1 or 2; in wintery conditions on icy roads, position 4 is recommended for pulling away smoothly with no gear shifts.

* Winter program

For winter driving conditions. In position D, gears 2-5 only are selected in such a way as to improve traction in wintery conditions.¹⁾

In positions 4, 3 and 2 the selected gear is held. In other words, you can also pull away in this gear, and the transmission does not shift down after acceleration.

On inclines or when towing a trailer, for example, it is beneficial to drive in selector lever position 2; in wintery conditions on icy roads, position 4 is recommended for pulling away smoothly with no gear shifts.

¹⁾ BMW 540i – Switzerland version: in the engine's warming-up phase, the car pulls away in 1st gear.

Telltale for selector electronics (3)

- If the telltale lights up, or
- If the **TRANS PROGRAM** display appears in the Check Control, there is a fault in the electronic shift system or transmission.

All selector lever positions remain available, but the car can only be driven in the following gears for forward travel:

BMW 518i, 525td: in position D, 3rd and 4th; in positions 2 and 1, 3rd.

BMW 520i, 525i/iX, 530i, 540i, 525tds: 4th and 5th gears.

Avoid extreme engine loads and consult the nearest BMW service station.



Adaptive transmission control* (AGS)

Two programs can be selected at the program switch:

- A – “Adaptive” program
- S – “Sport” program

Push the switch in the desired direction. The selected program is then displayed in the instrument cluster (see Page 42).

Warning:

Never carry out any work in the engine compartment when a gear (speed range) has been selected.

Never leave children unattended inside the car.

For towing away, tow-starting and starting with a flat battery see Pages 95 and 93.

A – “Adaptive” program

This is the initial position every time the engine is started. When a forward speed is selected, the adaptive transmission control automatically selects the most advantageous shift program. The control system adapts continuously to the driver's style (e.g. restrained or enthusiastic approach), the properties of the road surface (e.g. slippery surface or sharp incline) and the momentary driving situation (e.g. curves or downhill gradient).

S – “Sport” program

In this position, only the most dynamic shift program is used.

This program is recommended if performance-oriented speed selection is desired, independent of the momentary driving style.

Selector lever positions

The selector lever positions are described on Page 42. However, the function of positions 4, 3 and 2 more resembles that of a speed limiting device which can therefore be deliberately chosen.

When in position **4 – direct drive** – the transmission may hunt between 5th and 4th in position D. This effect does not occur with AGS.

The AGS also functions in selector lever positions 4, 3 and 2 with certain limitations on the available gears, depending on the position selected.

Special functions

In program A, the adaptive transmission control influences speed selection by means of various special functions. Certain shifting processes which were previously common are now suppressed, and in special situations gear shifts which previously did not occur now take place.

Suppressing upshifts

If the accelerator is let out rapidly while cornering at high speeds and on steep downward gradients, upshifts are usually suppressed. The engine's braking effect can thus be used and the occurrence of undesirable upshifts when the car is being driven in an enthusiastic manner is significantly reduced.

Shifting down

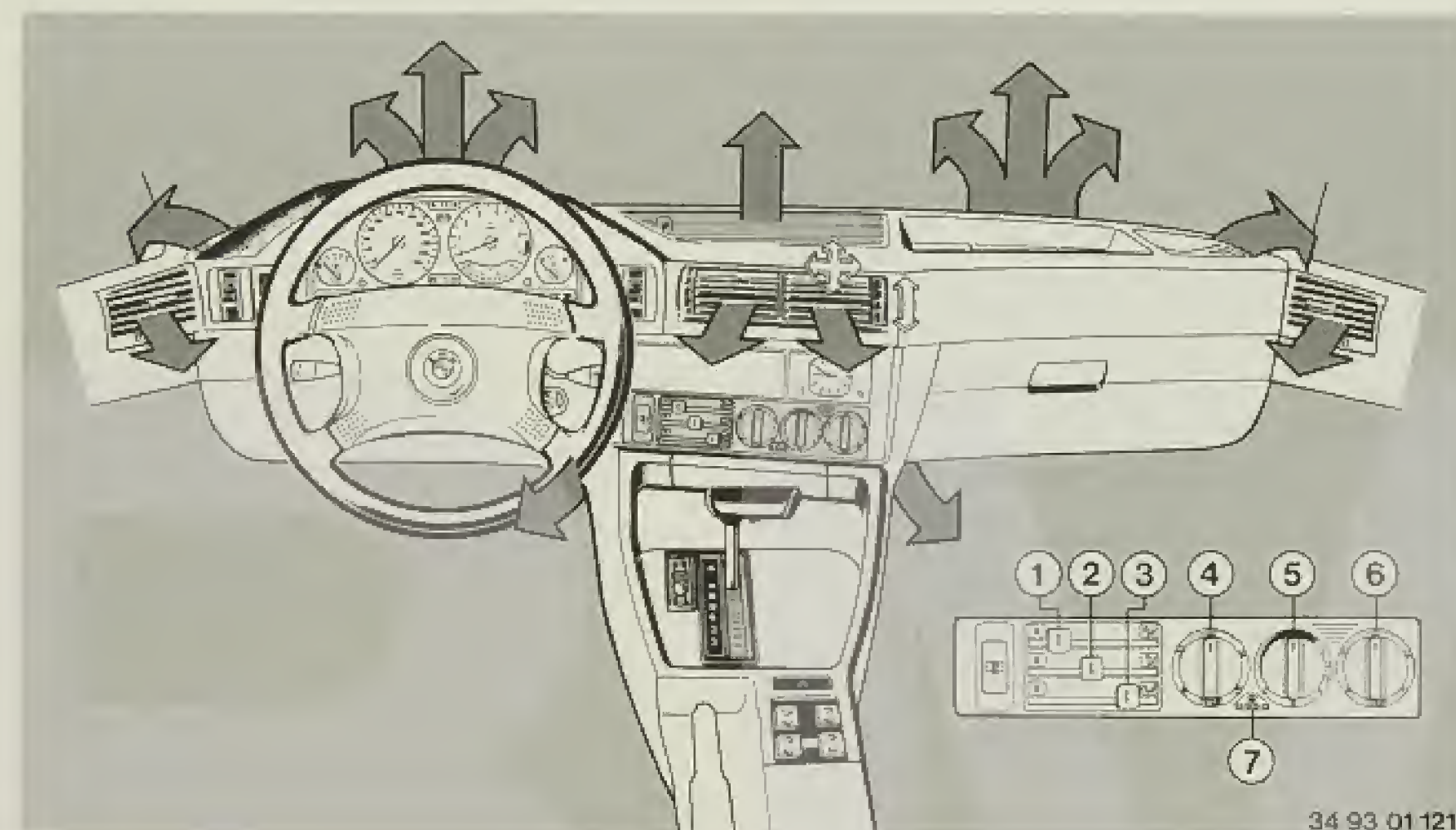
The comments on Page 43 on the kickdown function also apply to the AGS. In many instances, however, depressing the accelerator pedal rapidly will be sufficient to cause the transmission to shift down; it will then not be necessary to bring the kickdown function into operation.

If the vehicle is braked on a sharp downhill gradient, up to a certain engine speed the transmission shifts down a gear. This increases the engine's braking effect.

Selection of winter driving program

When driving on a slippery surface (snow and ice), a winter program is automatically selected. The car pulls away in 2nd or 3rd gear and shifts up to higher gears at relatively low speeds. This program facilitates driving in wintry conditions, and the vehicle's traction and dynamic stability are enhanced.

The winter program is left whenever the AGS recognises that the car is on a high-grip surface, the “Sport” program is selected or the ASC+T is switched off.



Heating and ventilation

- 1 – Slide control for upper air distribution
- 2 – Slide control for centre air distribution
- 3 – Slide control for lower air distribution
- 4 – Rotary temperature selector, left side
- 5 – On/off switch and rotary airflow volume control
- 6 – Rotary temperature selector, right side
- 7 – Settings for maximum windscreen and side window defrosting

1–3 Slide controls for air distribution

The desired distribution of heated air can be steplessly adjusted.

Slide control at left: closed
Slide control at right: fully open

1 – Slide control for upper air distribution

Air emerges through the defroster outlets for the windscreen and the front side windows.

2 – Slide control for centre air distribution

Air emerges through the directionally adjustable, controlled-flow grilles in the centre of the facia and front doors, and through the controlled-flow grille on the top of the facia.

3 – Slide control for lower air distribution

Air emerges through the front and rear footwell outlets.

Vehicles without microfilter: always keep this slide control at least half open, except when defrosting the windscreen, so that the temperature sensor of the electronic temperature control remains operational.

Rear ventilation*

The rear can be ventilated independently of the slide controls via the directionally adjustable, controlled-flow grilles in the end of the centre console. Only fresh air emerges from these grilles.

4, 6 – Rotary temperature selectors for driver's/passenger's side

The calibrations are intended as an approximate guide to the temperature inside the car. The selected temperature is reached as soon as possible after the car has been started, and does not normally need to be altered (electronic temperature control).

Alter the setting only by a small amount at a time, to prevent excessive temperature fluctuations.

At the right-hand limit position of the driver's side control, the temperature is no longer regulated automatically on either side (maximum heating setting; also emergency heating position if a fault has developed in the electronic temperature control system).

5 – On/off switch and rotary airflow volume control

Position 0: system switched off, air entry shut off.

Turned clockwise away from detent: minimum airflow and blower rating.
Turned further to right: airflow volume increases, minimum blower rating.

Higher blower ratings: stages 2 to 4.

For correct operation of the electronic temperature control system, the rotary control should always be turned to at least the 12 o'clock position.

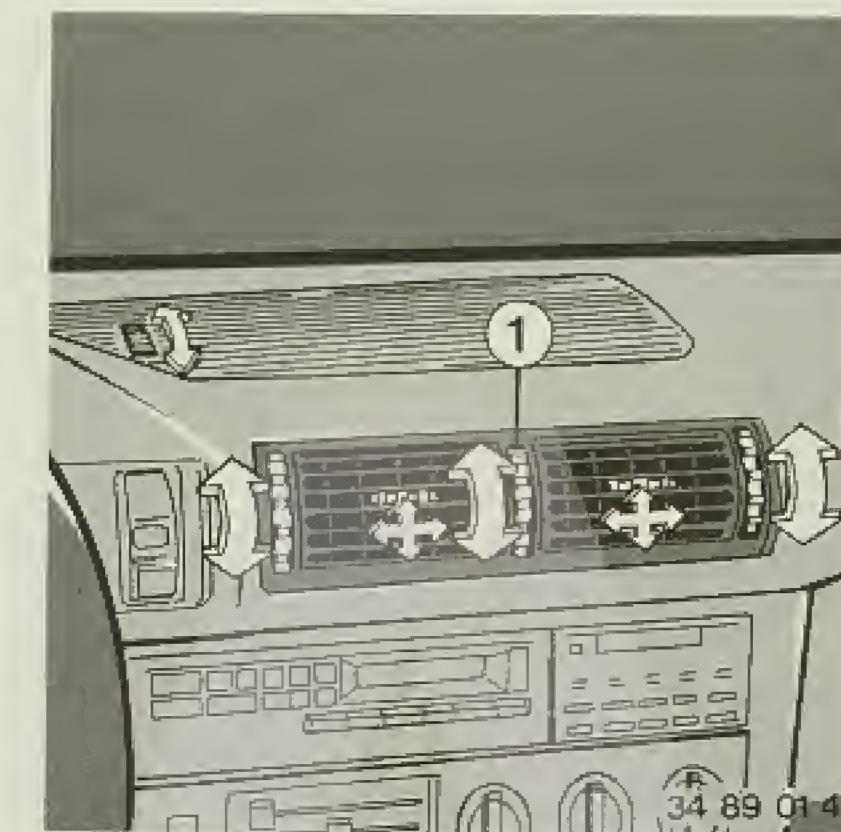
For most rapid windscreen and side-window defrosting:

7 – Setting for maximum windscreen and side window defrosting (removing existing ice or condensation, keeping glass free)

Maximum defrosting effect is not obtained until the engine reaches its normal operating temperature.

For maximum effect, keep the ventilation outlets to the rear-seat area closed.

If the windows fog over, this is usually caused by severe temperature differences (condensation) or by high atmospheric humidity. The only cure is to dry the glass by increasing the flow of air and its temperature.

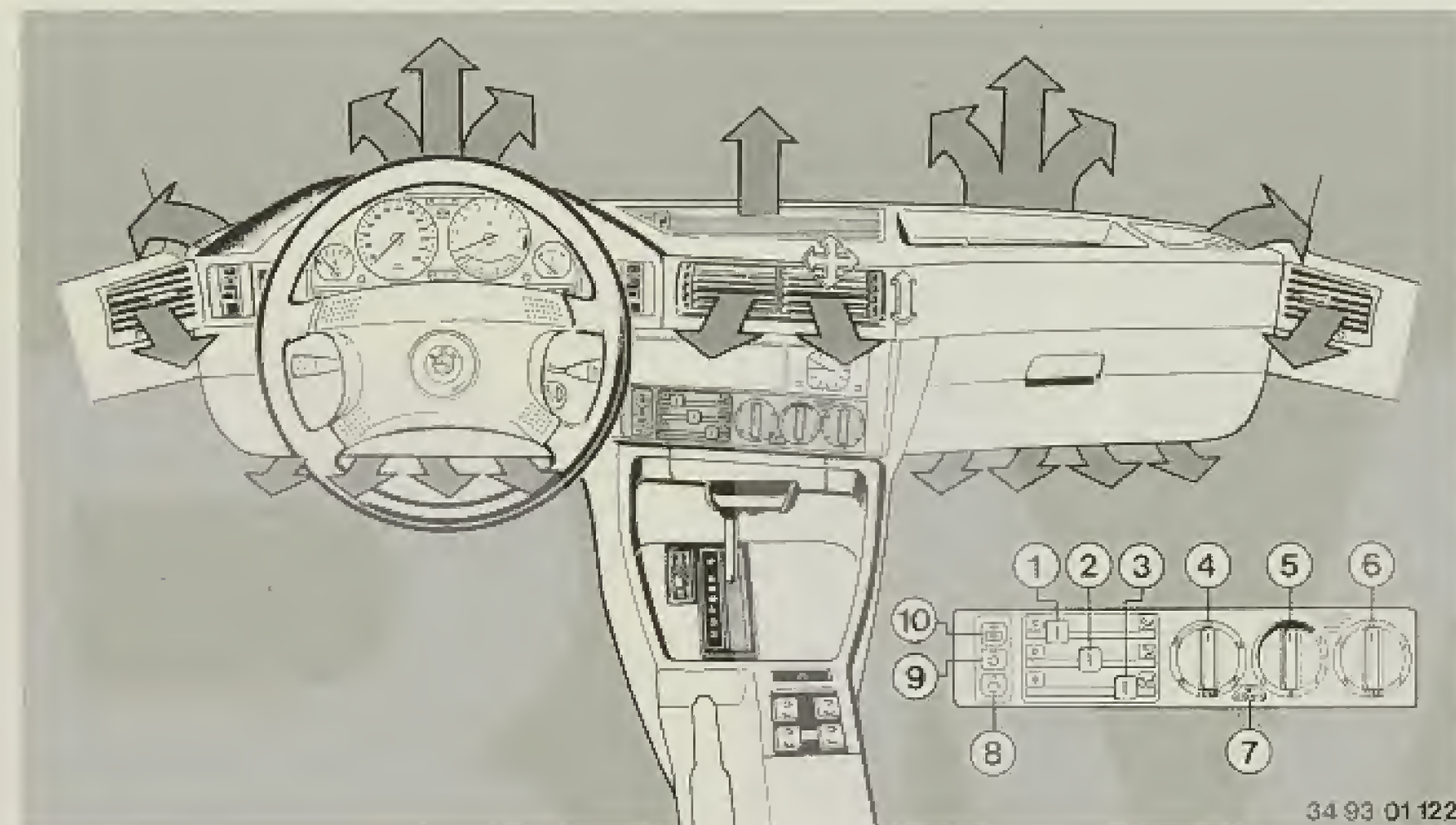


Stratified temperatures for freedom from fatigue on long journeys: feet warm, head cool

Knurled wheel 1 varies the temperature of the air emerging from the facia grilles and front door outlets.

Up: warmer
Down: cooler

Each grille can be repositioned individually and the airflow volume adjusted at the knurled wheel. The grille on the top of the facia is permanently set to indirect ventilation of the centre zone.



Heating and ventilation/ air conditioning*

- 1 – Slide control for upper air distribution
- 2 – Slide control for central air distribution
- 3 – Slide control for lower air distribution
- 4 – Temperature selector wheel, left side
- 5 – On/off switch and rotary airflow volume control
- 6 – Temperature selector wheel, right side
- 7 – Settings for maximum windscreen and side window defrosting
- 8 – Pushbutton for AUC* or recirculated-air operation
- 9 – Pushbutton for air conditioning
- 10 – Pushbutton for heated rear window

1 – 3 Slide controls for air distribution

The desired distribution of heated or fresh air can be steplessly adjusted.

Slide control at left: closed
Slide control at right: fully open

1 – Slide control for upper air distribution
Air emerges through the defroster outlets for the windscreen and the front side windows.

2 – Slide control for central air distribution

Air emerges through the directionally adjustable, controlled-flow grilles in the centre of the facia and front doors, and through the controlled-flow grille on top of the facia.

3 – Slide control for lower air distribution
Air emerges via the front and rear footwell outlets.

Rear ventilation

The rear can be cooled or ventilated independently of the slide controls via the

directionally adjustable, controlled-flow grilles in the end of the centre console. These grilles deliver fresh air only, or cooled air if the air conditioning system is switched on.

4, 6 – Rotary temperature selectors for driver's/passenger's side

Temperature control is switched on and off at the rotary knob on the **driver's side**:
Left-hand limit position: no heating effect, temperature control off.

As the control is turned to the right away from the detent position: temperature control cuts in.

Right-hand limit position (detent): maximum heating output and temperature control off (also emergency position if a fault develops in the electronic temperature control system).

The calibrations are intended as an approximate guide to the temperature inside the car. The selected temperature is reached as soon as possible after the car has been started, and does not normally need to be altered (electronic heating control).

Alter the setting only by a small amount at a time, to prevent excessive temperature fluctuations.

5 – On/off switch and rotary airflow volume control

Position 0: system switched off, air entry shut off.

Turned clockwise away from detent: minimum airflow and blower rating.
Turned further to right: airflow volume increases, minimum blower rating.

Higher blower ratings: stages 2 to 4.

For correct operation of the electronic temperature control system, the rotary control should always be turned to at least the 12 o'clock position.

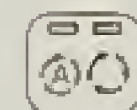
For most rapid windscreen and side-window defrosting:

7 – Settings for maximum windscreen and side window defrosting (removing existing ice or condensation, keeping glass free)

Maximum defrosting effect is not obtained until the engine reaches its normal operating temperature.

For maximum, effect, keep the ventilation outlets to the rear-seat area closed.

If the windows fog over, this is caused by temperature differences (condensation) or by high atmospheric humidity. The only cure is to dry the glass by increasing the flow of air and its temperature.

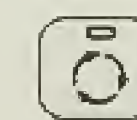


Pushbutton for AUC – Automatic Recirculating Air Control*

This system identifies peak loads caused by polluted outside air and prevents it from entering the car's interior.

Press the button as often as necessary to obtain the following three functions in succession:

- LEDs off: normal fresh-air operation
- left LED on: sensor measures degree of outside air pollution. If the level is too high, the fresh air flaps are automatically closed and the system is operated in the recirculated air mode
- right LED on: recirculated-air operation



Pushbutton for recirculated-air operation

Recommended when driving through badly contaminated outside air. The air inside the car is recirculated and no outside air permitted to enter.

The telltale in the pushbutton comes on to indicate recirculated-air operation.

Although the air conditioning is automatically switched on to improve the quality of the air by removing excess moisture, the recirculated-air setting should not be used for too long at a time.

Note: if the windows fog over during recirculated-air or AUC operation, change to normal fresh-air operation and switch on air conditioning with pushbutton 9.

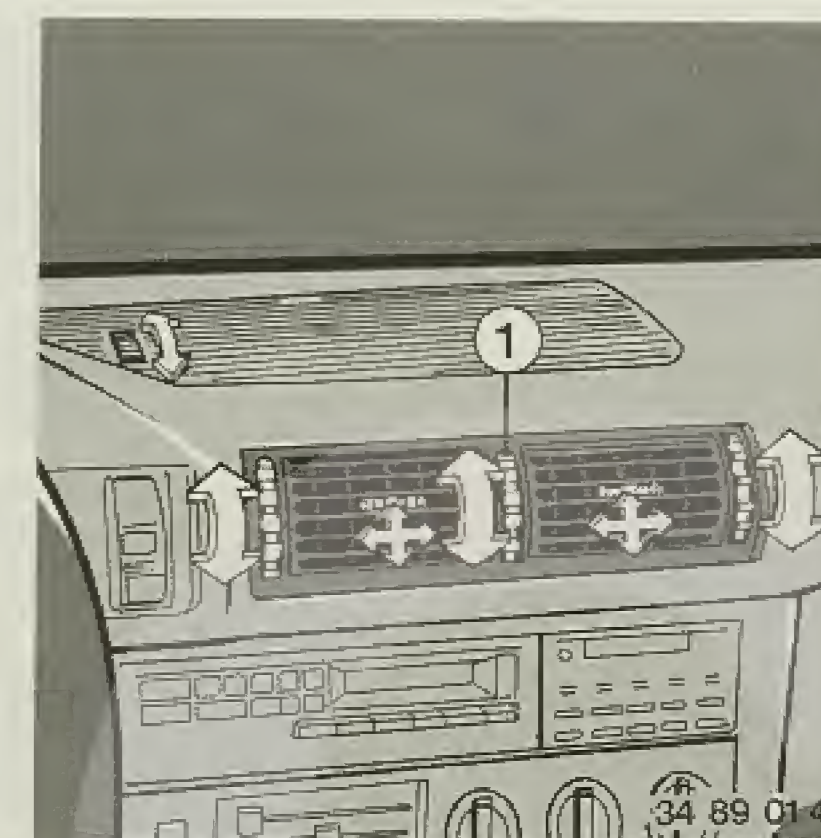


Pushbutton for air conditioning

The air conditioning is switched on in all programs at an outside temperature of approx. +10°C and above. The telltale indicates that the system is operating. The air is cooled and dried.

If atmospheric humidity is very high, it is best to run the air conditioning without delay (before moisture condensate can reach the evaporator) to dry the air and prevent the windows from fogging over. Take care not to direct **cooled** air onto the windscreen, as it could otherwise mist over on the outside.

If maximum cooling performance is needed, the system switches automatically to recirculated-air operation (with a small proportion of additional fresh air).



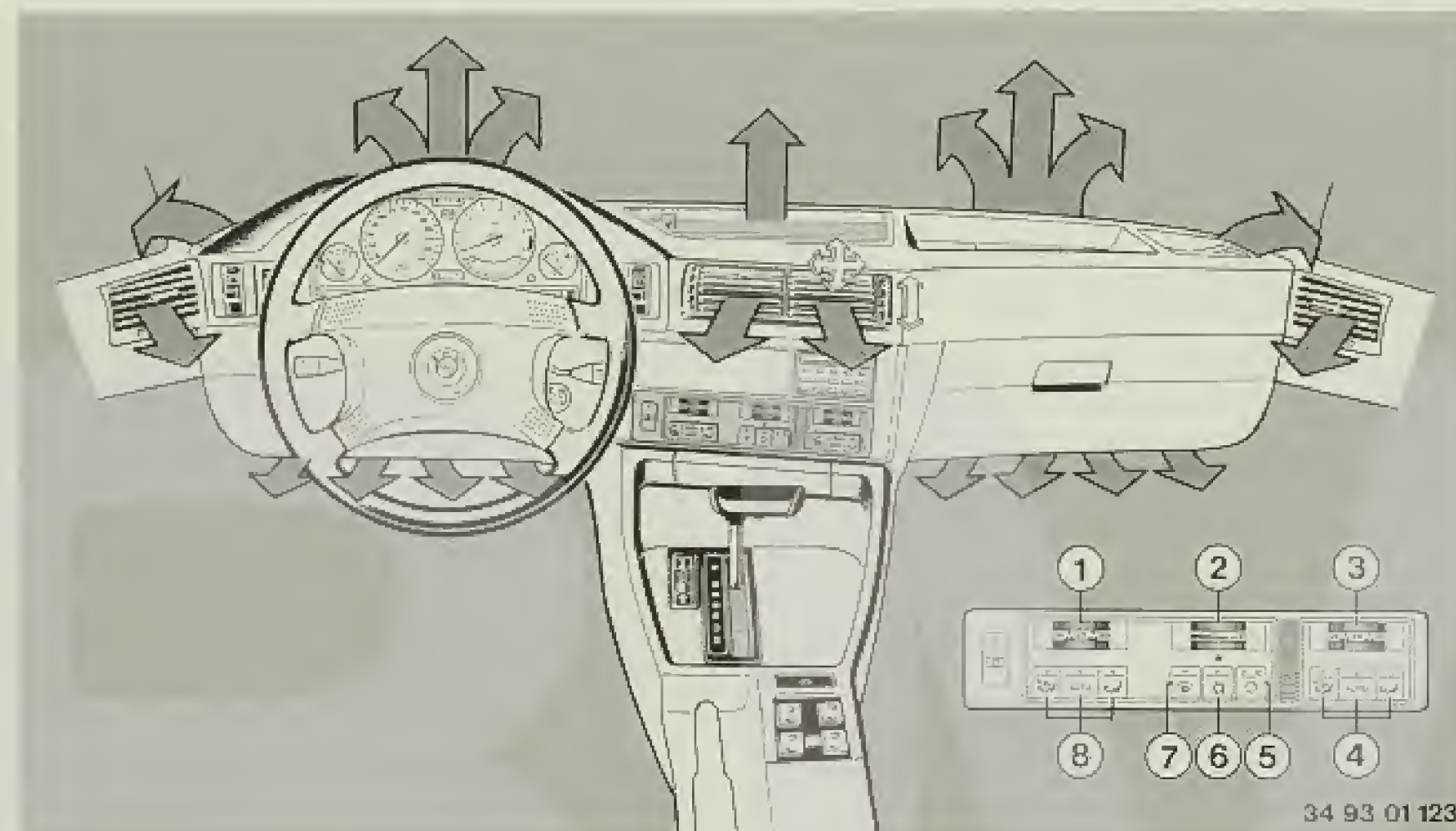
Pushbutton for heated rear window

Function as described on Page 37.

Stratified temperatures for freedom from fatigue on long journeys: feet warm, head cool

Knurled wheel 1 varies the temperature of the air emerging from the facia grilles and front door outlets (except when maximum cooling performance has been selected).

Up: warmer
Down: cooler



Automatic air conditioning*

- 1 – Temperature selector wheel, left side
- 2 – On/off switch and airflow volume control
- 3 – Temperature selector wheel, right side
- 4 – Right side air distribution program keys
- 5 – Pushbutton for AUC* or recirculated-air operation
- 6 – Pushbutton for air conditioning
- 7 – Pushbutton for maximum windscreen and side window defrosting
- 8 – Left side air distribution program keys

When a pushbutton is pressed, the corresponding LED lights up if the system has been switched on at airflow volume control selector wheel (2).

1, 3 – Driver's/passenger's side temperature selector wheel

Temperature control is switched on and off at the selector wheel on the **driver's side**: Left-hand limit position: no heating effect, maximum cooling effect, temperature control off.

As the control is turned to the right away from the detent position: temperature control cuts in. Right-hand limit position (detent): maximum heating output and temperature control off (also emergency position if a fault develops in the electronic temperature control system).

The calibrations are intended as an approximate guide to the temperature inside the car.

The selected temperature is reached as soon as possible after the car has been started, and does not normally need to be altered.

Alter the setting only by a small amount at a time, to prevent excessive temperature fluctuations.

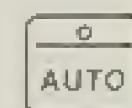
2 – On/off switch and airflow volume control

Position 0: system switched off, air entry shut off.

Turned clockwise to detent: minimum blower rating. Turned further to right: airflow volume increases.

Right-hand limit position (detent): maximum airflow volume (also emergency position if a fault develops in the electronic blower control system).

4, 8 – Passenger's/driver's side air distribution program keys



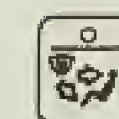
Air distribution takes place automatically in accordance with the temperature situation.

Air outlets: through the defroster outlets to the windscreen and front side windows, through the directionally controllable, variable-flow grilles on the facia and in the front doors, and the variable-flow grille on the top of the facia, the front footwell outlets and the outlets for the rear passenger area and through the directionally controllable, variable-flow rear-seat ventilation grilles at the rear end of the centre console.

After a cold start in cold weather and until the heater matrix has reached 30° C, air emerges from the defroster outlets only.

This program is suitable for all normal conditions with very few exceptions, and supplies air of a pleasant and acceptable quality to the interior.

For optimum operation of the automatic air distribution system, the facia grilles must not all be closed at the same time.

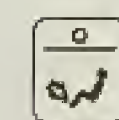


Air supply to all outlets and grilles, without automatic air distribution control.

This program is recommended for warmer weather in particular, when special ventilation or cooling of the lower part of the car's interior is required.

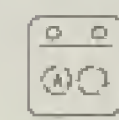
Note:

Press this button, increase the airflow if necessary and close up the ventilation outlets if the windscreen and side windows mist over during a journey and you do not wish to press button 7.



Air distribution to front and rear footwell outlets only. The defroster outlets are only slightly open, and no air reaches the grilles at the rear end of the centre console.

This program is recommended in cooler weather, for example when no fresh-air ventilation is required or to warm up the footwell area quickly.



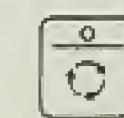
Pushbutton for AUC – Automatic Recirculating Air Control*

This system identifies peak loads caused by polluted outside air and prevents it from entering the car's interior.

Press the button as often as necessary to obtain the following three functions in succession:

- LEDs off: normal fresh-air operation

- left LED on: sensor measures degree of outside air pollution. If the level is too high, the fresh air flaps are automatically closed and the system operated in the recirculated air mode
- right LED on: recirculated-air operation

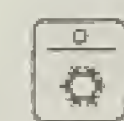


Pushbutton for recirculated-air operation

Recommended when driving through badly contaminated outside air. The air inside the car is recirculated and no outside air permitted to enter.

Although the air conditioning is automatically switched on to improve the quality of the air by removing excess moisture, the recirculated-air setting should not be used for too long at a time.

Note: if the windows fog over during recirculated-air or AUC operation, change to normal fresh-air operation and switch on air conditioning with pushbutton 6.



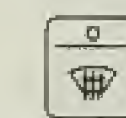
Pushbutton for air conditioning

The air conditioning is switched on in all programs at an outside temperature of approx. +1° C and above when this button is pressed.

The air is cooled and dried.

If atmospheric humidity is very high, it is best to run the air conditioning without delay (before moisture condensate can reach the evaporator) to dry the air and prevent the windows from fogging over. Take care not to direct **cooled** air onto the windscreen, as it could otherwise mist over on the outside.

If maximum cooling performance is needed, the system switches automatically to recirculated-air operation (with a small proportion of additional fresh air), and the defroster outlets are closed.



Pushbutton for maximum windscreen and side window defrosting/drying

If the windows fog over, this is caused by temperature differences (condensation) or by high atmospheric humidity. The only cure is to dry the glass by increasing the flow of air and its temperature.

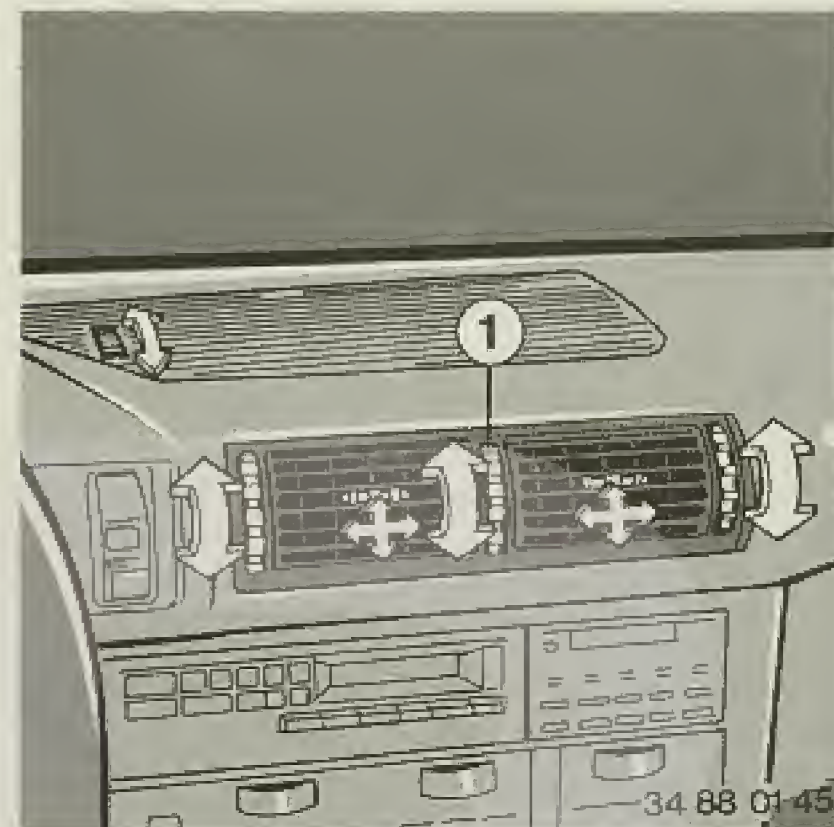
When this button is pressed, maximum windscreen and side window defrosting is selected automatically, with no additional control movements needed.

Maximum defrosting effect is not obtained until the engine reaches its normal operating temperature.

When this button is released, the previous control settings are automatically restored.

Note: when this button is pressed, rear window heating is also in operation.

Noises heard after the car's engine has been stopped are caused by the actuating motors moving the air flap control system to its rest position.



Stratified temperatures for freedom from fatigue on long journeys: feet warm, head cool

Driver and front passenger: knurled wheel 1 varies the temperature of the air emerging from all facia grilles (except when maximum cooling performance has been selected).

Up: warmer
Down: cooler

Rear-seat passengers: open and alter the direction of the grilles at the rear end of the centre console as required. These grilles supply fresh air only (cooled air if the air conditioning is in operation).

Rear-seat area ventilation is shut off automatically in the driver's-side programs

- AUTO - (cold weather only) and
- air distribution to footwell outlets only.

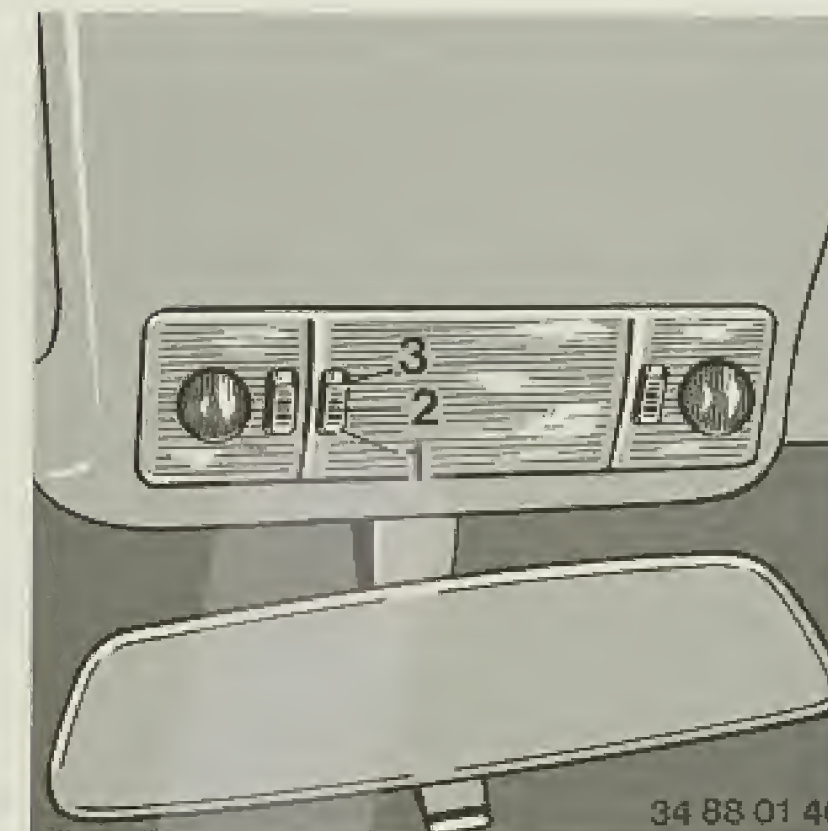
Important notes on air conditioning operation

1. The moisture condensate which forms at the evaporator is discharged underneath the car. Depending on humidity, up to 2 litres of water may be discharged per hour.
2. The air conditioning must be run briefly at least once a month to prevent the compressor shaft seals from drying out and allowing refrigerant to escape. This is particularly important during the winter.
3. If any malfunction occurs in the air conditioning system, for instance if it is set for maximum cooling (driver's side temperature selector wheel or rotary knob fully to left) but no cooled air is supplied, it must be switched off immediately and the car taken to a BMW service station.

Microfilter*

Fresh air is drawn in through a microfilter. This filters out up to 100 % of pollen and 60 % of dust particles.

The filter is changed during the usual maintenance work. Any reduction in the air flow rate indicates that the filter should be changed before the next inspection.



Interior light

- 1 - Lights come on when a door is open (door contact switches) and remain on for several seconds after the door has been closed, even with the ignition off, and after an accident
- 2 - Lights permanently off
- 3 - Lights permanently on

The reading lights* next to the front interior light are operated similarly.
BMW touring: the load area light is also operated in this way, and is switched on or off via contacts when the tailgate or tailgate window is opened or closed.

Automatic interior light*

(in conjunction with heated driver's door lock)

In addition to the above functions, the light comes on for a few seconds (max. three times) when the vehicle is locked and the driver's door handle is lifted.



If the car's lights were switched on, the interior light comes also on for a few seconds when the ignition switch is turned off.

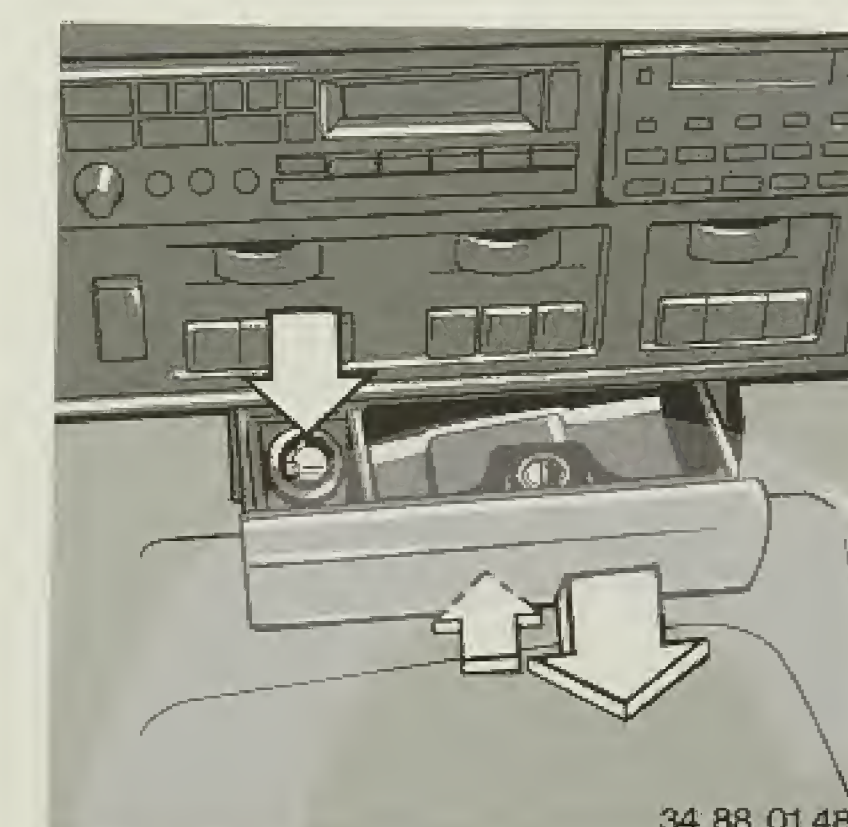
The **rear seat reading lights*** can be operated by switches next to them when ignition key is in position 1 or beyond.

Analog clock

- + key: to move the hands clockwise
- key: to move the hands counter-clockwise

If the key is touched briefly, the minute hand is reset by one minute.

If the key is pressed firmly, adjustment is continuous; the longer the key is pressed, the faster the hands move.



Cigarette lighter

Press the knob to operate. When the spiral element has heated up, the lighter jumps out to its original position and can be removed.

Warning:

Always take hold of the cigarette lighter by its knob, never by its heating element or at the sides.

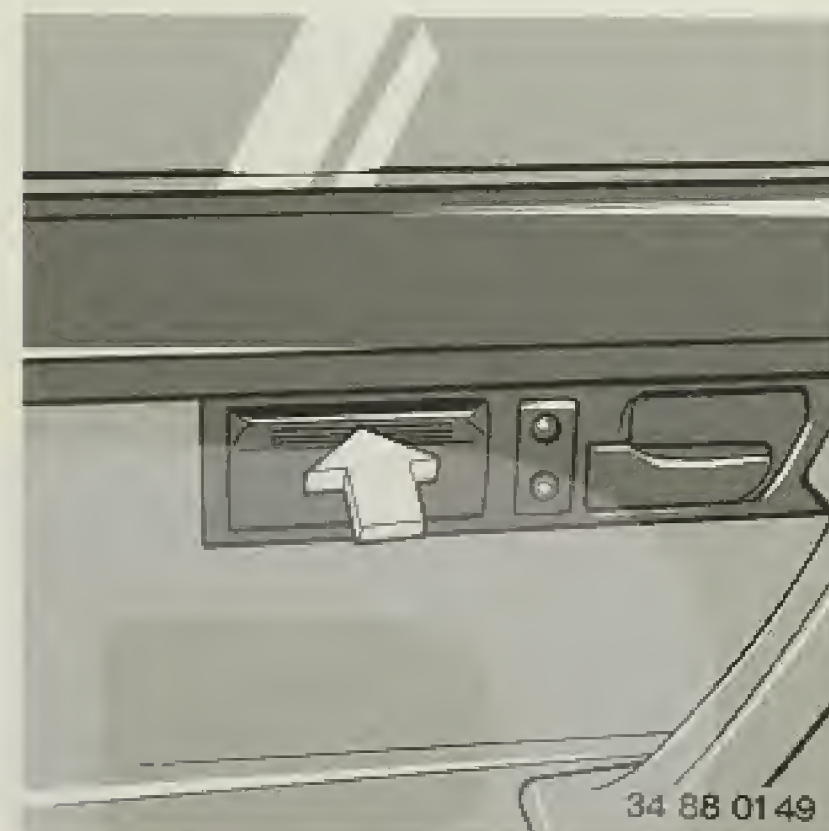
Cigarette lighter socket

This can also be used as a power socket for a hand lamp, car vacuum cleaner etc. rated up to app. 12 V, 200 Watt. Be careful not to damage the socket by inserting a plug of the wrong pattern.

Ashtrays

Front ashtray

To extinguish a cigarette, first knock off excess ash, then insert it into the funnel-shaped section of the ashtray. Do not press it in hard.



Emptying the front ashtray:

Pull the ashtray fully out. Press the spring under it and lift out the ashtray.

One-touch rear ashtrays

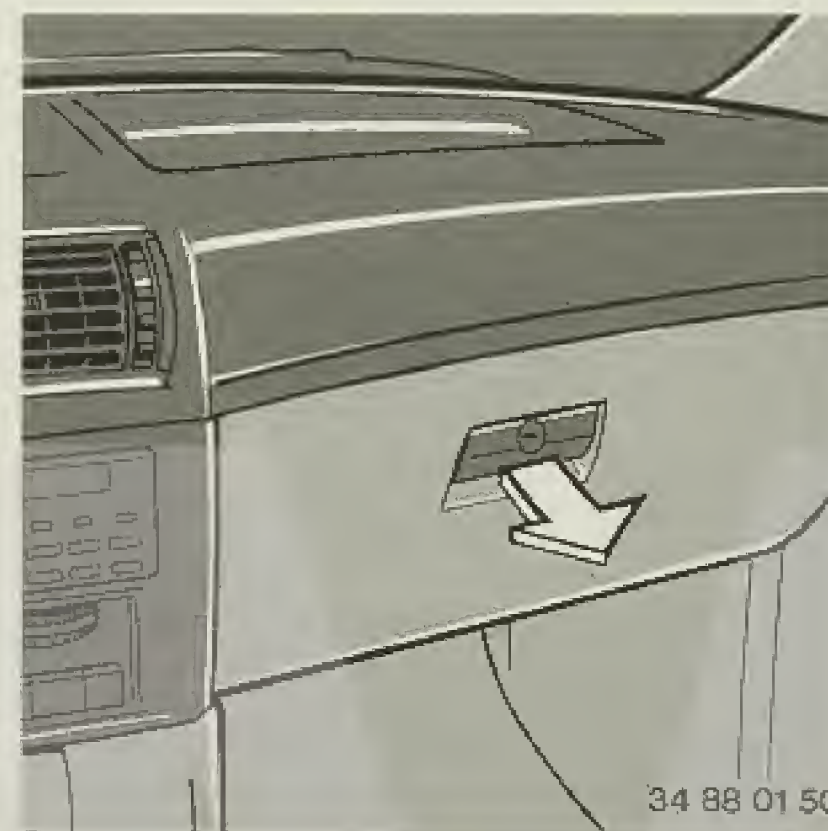
Tap the ashtray at the top; it opens automatically.

To empty the open ashtray, press down the spring and remove the ashtray. After emptying, re-insert the ashtray and push in to close.

Cigarette lighter for rear passengers*: at end of centre console.

Warning:

The cigarette lighters can still be used when the ignition key has been removed. For this reason, never leave children unattended in the car.



Glove box

Open by pulling the handle; when the ignition key is in position 1 or beyond, the light comes on.

Fold the lid back up to close.

Warning:

To avoid the risk of injury, close the glove box immediately after use.

Lock with a master key.

To renew the light bulb (5 Watt), press out the lamp with a screwdriver blade and change the bulb.

Rechargeable hand lamp*

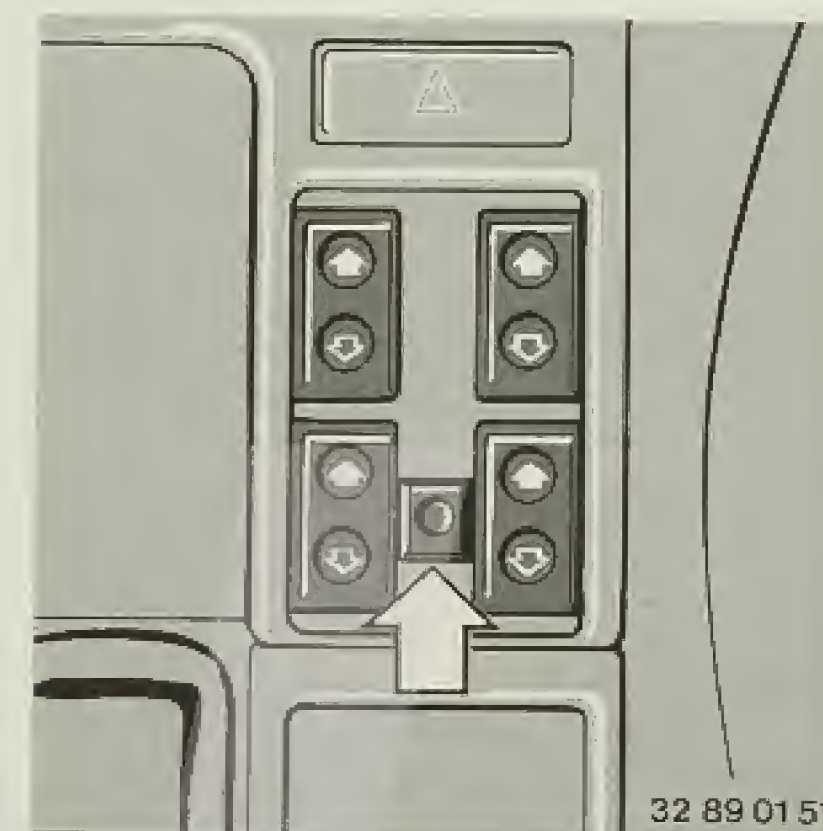
The plug for rechargeable hand lamp is located at the top left inside the glove box. It has a built-in overload cutout and can therefore remain plugged in all the time, so that it is fully charged whenever needed.

It must, however, be taken out if the battery is disconnected or removed.

Warning: do not plug the lamp in while it is switched on.

Other storage compartments:

On the fascia, in the front doors, on the centre console, in certain models on the back of the front seats* and in a compartment* with lid to the left of the steering wheel.



Electric window lifts*

To operate, the ignition key must be in position 2.

Individual switches are provided under the rear door windows.

One-touch function*: by touching the appropriate switch momentarily, the driver's door window can be opened or closed and the other windows opened. A further touch halts window movement.

Safety switch (arrow)

To prevent operation of the rear windows from the rear switches, e.g. by children.

Convenience circuit

After the ignition has been switched off these can still be operated (for a maximum of approx. 15 minutes) when

- the key is in position 1 or 0,
- the key has been removed, or
- the doors have been opened once.

After closing the doors, hold the key in the "lock" position in the door lock (on touring models, the tailgate lock can also be used) if you wish to close the windows (convenient closure system).

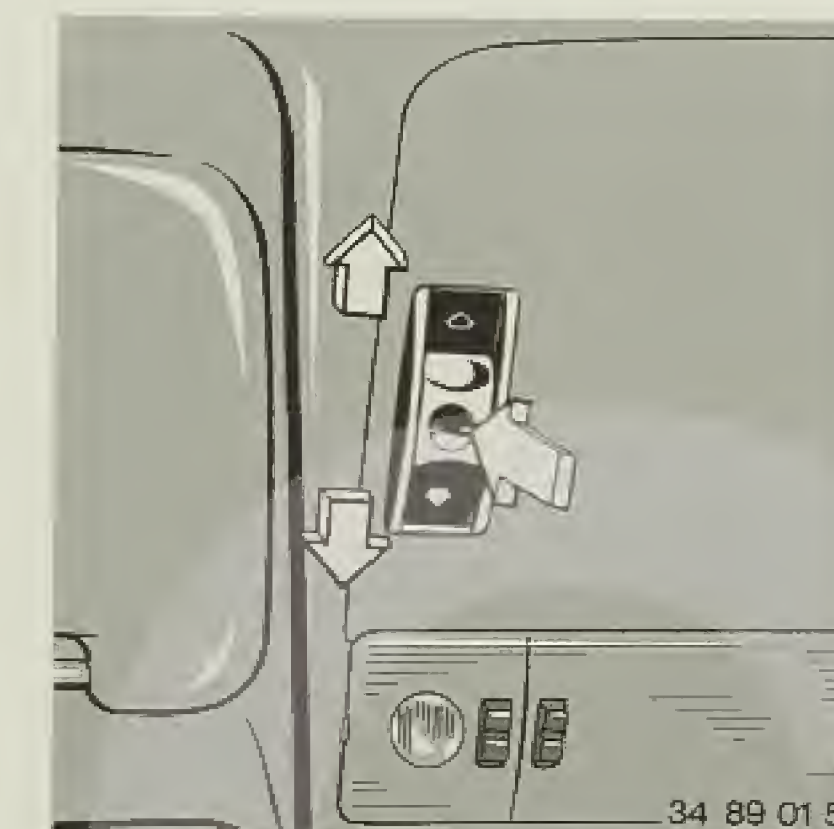
Warning:

Careless or negligent closing of the windows, particularly with the remote control, could cause injury.

If children are carried on the rear seat it is particularly important to keep the safety switch (arrow) pressed in.

Always remove the ignition key and take it with you when leaving the car.

An electronic automatic circuit breaker protects the system against overloading and faults.



Sliding/tilt roof *

To operate, the ignition key must be in position 2.

Raising: press the switch.

Opening: slide the switch to the rear.

Closing: slide the switch forwards.

One-touch function*: to open or close a partly-open sunroof, just operate the switch briefly in the desired direction. A further touch halts the movement.

To prevent unpleasant draughts or a feeling of low air pressure inside the car when the roof is open and in particular when in the raised position, keep the air entry grilles open and increase the incoming airflow if necessary.

Convenience circuit

After the ignition has been switched off it can still be operated (for a maximum of approx. 15 minutes) when

- the key is in position 1 or 0,
- the key has been removed, or
- the doors have been opened once.

After the doors have been closed, hold the key in the door lock in the "lock" position to close the sliding/tilt roof (convenient closure function).

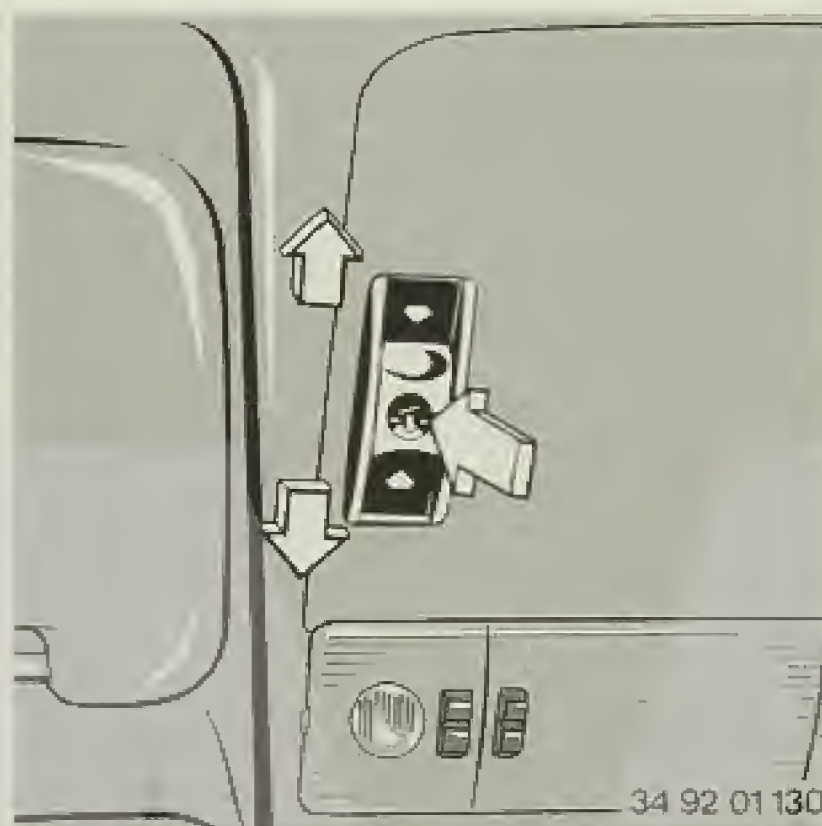
Warning:

Careless or negligent closing of the sliding/tilt roof, particularly with the remote control, could cause injury.

Always remove the ignition key and take it with you when leaving the car.

An electronic automatic circuit breaker protects the system against overloading and faults.

If an electrical fault should develop, the electric sliding roof can be closed manually (see Page 100).



Double-panel sunroof*

For ventilation, the front roof can be raised and both roofs can be slid open either individually or synchronously.

Operation in ignition key position 2.

One-touch function*:

Automatic operation of the roofs by pressing the switch briefly in the desired direction. A further touch halts the movement.

Push the switch to the rear or touch briefly:

The front roof is raised.

Note:

As it is raised, the sunroof lining moves a short distance rearwards.

With the roof fully raised, push the switch or press briefly: the front roof opens to the rear.

Press the switch or touch briefly:

The double sliding/tilt roof is closed from all positions.

Push the switch forward or touch briefly:
The front roof is raised.

With the front roof fully raised, push the switch or press briefly: the rear roof opens to the front.

When fully open, the rear roof moves together with the front roof. When the switch is pressed, both roofs can be adjusted as desired.

When slid, both roofs are coordinated to reach a defined, optimum ventilation position in both directions.

Safety functions

In the interests of safety, every one-touch movement can be interrupted.

If either roof encounters resistance while being closed via the one-touch function or the door lock, its movement is interrupted and it opens again slightly.

If the switch is operated for longer than 10 seconds without the roof moving or after a power failure (e.g. if the battery has been disconnected), the roof control system must be initialised afresh. To do this, hold the switch pressed until the roof is completely closed or, if the roof is already closed, press the switch briefly.

To prevent unpleasant draughts or a feeling of low air pressure inside the car when the roof is open and in particular when in the raised position, keep the air entry grilles open and increase the incoming airflow if necessary.

Convenience circuit

After the ignition has been switched off it can still be operated (for a maximum of approx. 15 minutes) when

- the key is in position 1 or 0,
- the key has been removed, or
- the doors have been opened once.

After the doors have been closed, hold the key in the door lock or tailgate lock in the "lock" position to close the double-panel sunroof (convenient closure function).

Warning:

Careless or negligent closing of the double-panel sunroof, particularly with the remote control, could cause injury.

Always remove the ignition key and take it with you when leaving the car.

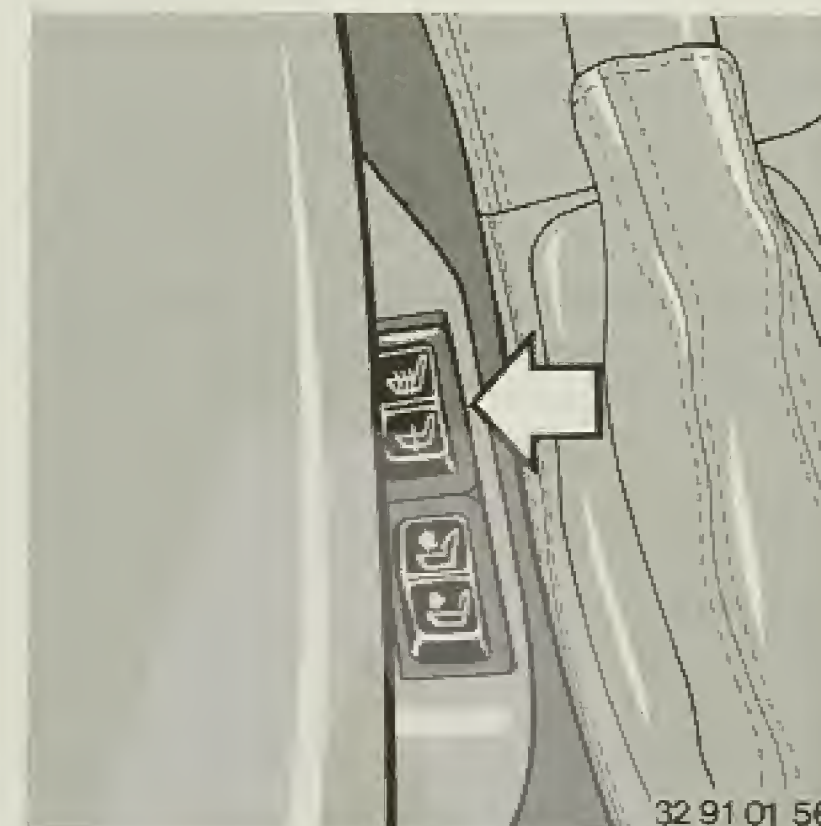
An electronic automatic circuit breaker protects the system against overloading and faults.

If an electrical fault should develop, the double-panel sunroof can be closed manually (see Page 100).

Note:

When loading the ski carrier, ensure that the bindings of the skis are supported on the rack at the front to leave sufficient space for the raising function.

We recommend use of the appropriate roof rack system for your BMW touring from the BMW accessories range.



Electric seat heating*

The seat base cushion and the seat back can be heated. Heating only takes place in ignition switch position 2.

Press the desired symbol on the switch:

⏏ Rapid heating while the symbol is illuminated. Automatic changeover to regular heating.

⏏ Regular heating. Cuts out automatically when the switch is no longer illuminated.

To switch over while heating: press the non-illuminated switch symbol.

To switch off prematurely: press the illuminated section of the switch.



Rear centre armrest

Pull the loop to extend.

Opening storage compartment* in centre armrest: lift button at front under the cover.

Front armrests*

To release the catch, press the button on the front.



Headlight beam throw adjustment*

The dipped headlights can be adjusted to compensate for the load the vehicle is carrying.

Saloon and touring without self-levelling suspension:

- 0 = 1–2 persons, no luggage
- 1 = 5 persons, with or without luggage
- 2 = 1 person, luggage compartment full

Saloon with self-levelling suspension:

- 0 = 1–2 persons, no luggage
- 0 = 5 persons, with or without luggage
- 2 = 1 person, luggage compartment full

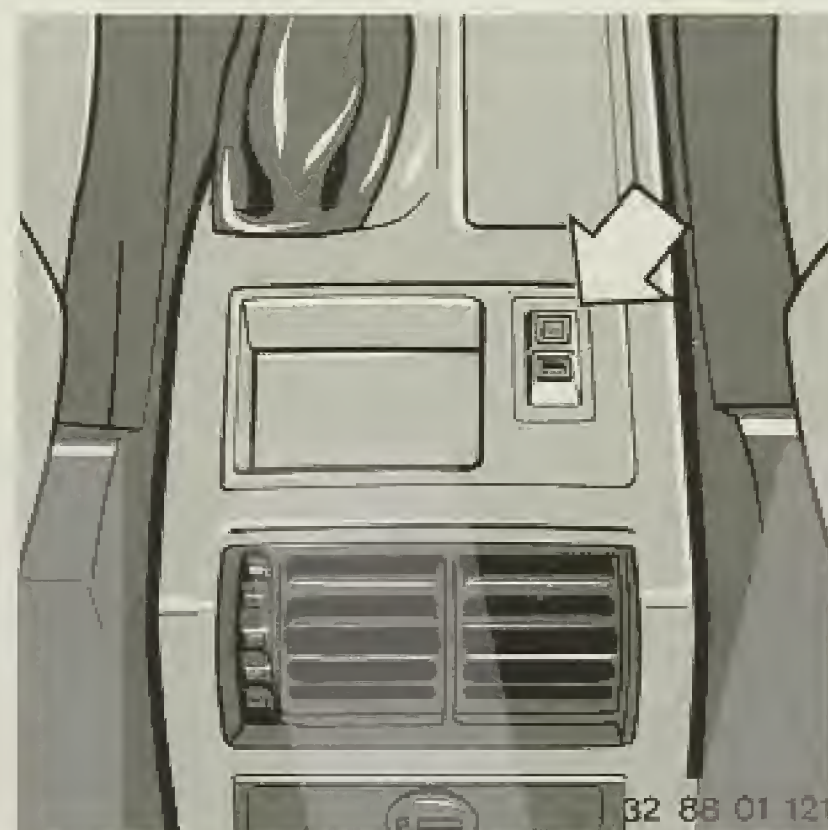
touring with self-levelling suspension and BMW 525iX touring:

- 0 = 1–2 persons, no luggage
- 0 = 5 persons, with or without luggage
- 1 = 1 person, luggage compartment full

BMW 525iX, 530i touring, 540i touring:
 0 = 1–2 persons, no luggage
 1 = 5 persons, with or without luggage
 1 = 1 person, luggage compartment full

Note rear axle load limit.

If the headlight setting is very low, the headlight beam throw adjustment system is faulty.

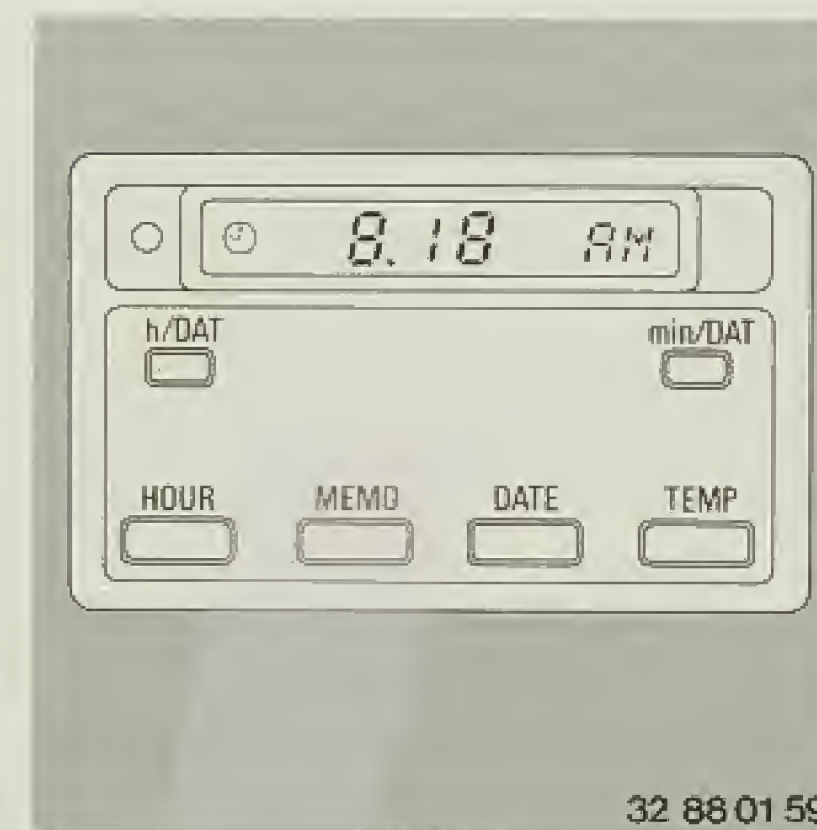


Electric roller sun blind for rear window*

Touch the rocker switch briefly to activate.

Mechanical roller sun blind for rear window*

Roller sun blinds for rear side windows*
 Pull out the sun blind by the strap and secure at the catch.



Outside temperature display and digital clock*

In addition to the actual time, the date and the outside temperature can be displayed and the MEMO key used to select an hourly reminder signal.

In ignition key position 0, time and date can be read off after pressing the appropriate function key. In ignition key position 1 and beyond, the time is displayed. Numerical values can be input or modified.

Time and date inputs

After the power supply has been interrupted (initial input, flashing dot), the time can be input without first pressing the function key (HOUR) by way of the two input keys h/DAT and min/DAT. To input the date, the DATE function key must first be pressed.

Each time an input key is pressed or held in for half a second, the numerical value increases by one.

The clock function is shown by a symbol, the date function by the DATE display.

To start the clock to the nearest second, press the HOUR key. To start the calendar program, press the DATE key. The dot will then cease to flash.

Before any other input alterations, keep the appropriate function key (HOUR or DATE) pressed until a flashing dot appears between the hours and minutes or between the day and month.

If another function is selected after making an input, the previous input will remain valid.

The program does not accept unrealistic inputs. The date display disregards leap-years and must therefore be corrected manually.

Notes for 12-hour clock

The change from AM to PM takes place every 12 hours and is shown in front of the numerical value. To allow for various national versions of the digital clock and outside temperature display, the time and temperature functions can be reset as follows:

- 24 h and ° C
- 12 h and ° F or
- 12 h and ° C

on the rear cover of the unit. When changing from 24 h to 12 h, the input keys automatically change their functions from day and month to month and day (US method of writing date).

Memo

The MEMO key is used to switch an hourly reminder signal on and off. The signal is heard 15 s before each full hour, and is useful (for instance when listening to a tape cassette) when news broadcasts are due. The letters ME are displayed when the reminder is activated.

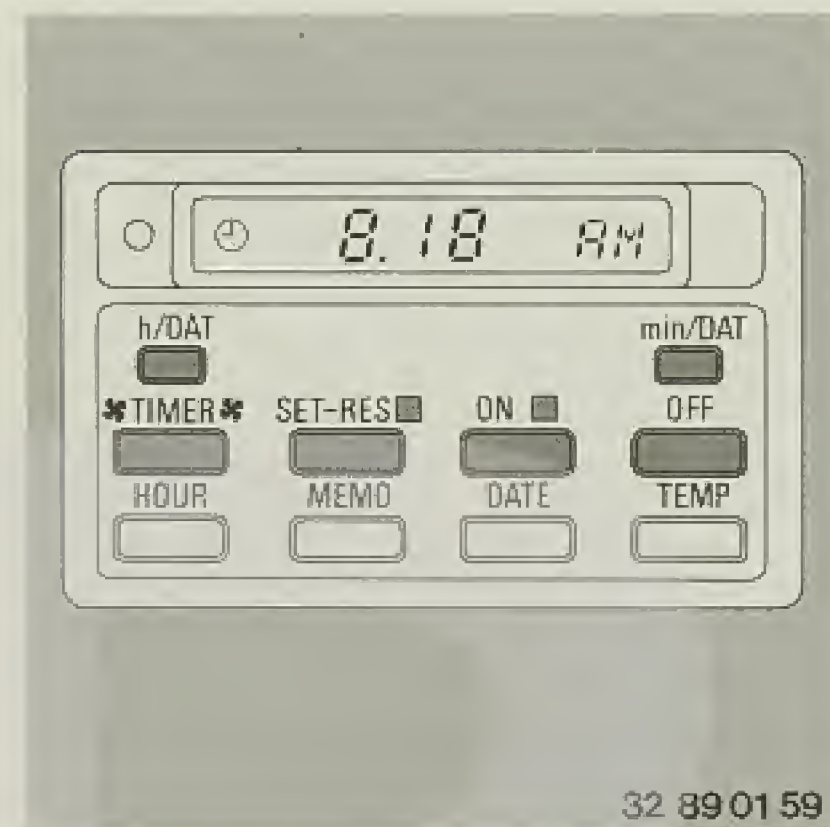
Outside temperature

By pressing the TEMP key, an outside temperature display can be obtained. If the outside temperature is below +3° C, an ice warning signal is heard if the ignition key is in position 1 and beyond. At the same time the temperature unit (° C/° F) and the dot in the display flash for 10 seconds.

If another function is selected during this period, and the temperature display selected again afterwards, only the visual warning signal is active for the remaining period.

The temperature warning is repeated if the temperature has risen to +6° C at least once before falling again below +3° C.

Do not rely exclusively on the low-temperature warning: ice can still form on bridges and patches of road in shadow even at indicated temperatures above +3° C.



Time switch* for independent heater/ventilation system

This enables the independent heater/ventilation system to be switched on and off directly, and a switch-on time between 0.00 and 23.59 to be preselected.

Direct switch-on: press the ON key for 3 seconds, until the LED flashes.

Switching off: press the OFF key.

Switch-on time input:

The ignition key must be in position 1 or beyond, and the HOUR function must have been selected.

Every time the TIMER key is pressed, a fan symbol appears on the digital display and alternately 1 and 2 to indicate the selected and input switch-on time.

Once the desired figure has been selected, the appropriate switch-on time can be input.

Press the TIMER key until the dot between the hours and minutes display begins to flash.

Input the desired switch-on time with the h-DAT and min-DAT keys.

Press the TIMER key again: the dot will stop flashing. The switch-on time is then programmed.

Activating the programmed switch-on time (ignition key in position 1 or beyond): after selecting the switch-on time, press the SET-RES key. The LED comes on until the time for the independent heater/ventilation system to start automatically is reached.

The LED above the ON key then confirms that the system is in operation.

De-activating the switch-on time: after selecting the switch-on time, press the SET-RES key again. The LED will go out.

Once programmed, a switch-on time can be activated and de-activated with the SET-RES key as often as required. It remains programmed until a new time input is made.

If the car is equipped with an **on-board computer**, the system is operated with the **TIMER** and **S/R** keys.

Independent heater* /ventilation system*

Below an outside temperature of 16° C, the **independent heater** is ready to operate when the ignition key is removed (or in position 0) and also in ignition key position 1.

The switch-on time can be preselected so that the car is warm before the journey starts. This also makes it easier to remove ice and snow from the car in cold weather.

The independent heater and the independent ventilation control system both operate for a 30-minute period. Since power consumption is high, the independent heater should not be run twice in close succession unless the battery has been recharged in the meantime by driving the car for a period at reasonable speeds.

Regular heating system:

- Open all 3 slide controls for air distribution and the front grilles as required.
- Close the fresh-air grilles on the end of the centre console.
- Set the rotary airflow control to at least 12 o'clock.

Air conditioning:

Open all 3 slide controls for air distribution and the front grilles as required, and close the fresh-air outlets on the end of the centre console.

Automatic air conditioning:

Heated air automatically emerges through the defroster outlets and the front and rear footwell outlets. Air distribution by means of the pushbuttons is possible only with the ignition key in position 1.

Both with the standard car heater and with air conditioning (non-automatic or automatic) the interior temperature can be preselected at the rotary controls or selector wheels when the ignition key is in position 1. In ignition key position 0, maximum heat output is always obtained.

Note: after switching off (LED goes out), the independent heater continues to run for a short time.

Important notes

If the independent fuel-burning heater does not start after not more than **two attempts**, or switches itself off automatically, consult a BMW service station.

Never run the independent heater in an enclosed space.

Always switch off the independent heater before adding fuel to the tank.

Recommendation: operate the independent heater briefly about once a month during the warm period of the year (approx. 5 minutes).

At temperatures above 16° C, proceed as follows:

Time switch: press the TEMP key for 3 seconds; the letter E will appear.

On-board computer: press the TEMP and TIMER keys simultaneously for 3 seconds; the INVERS display will appear.

After this, the independent heater can be operated once (switch on and off directly).

Above an outside temperature of 16° C, the **independent ventilation system** can be run to ventilate the car's interior and lower its temperature (same ignition key position as for independent heater). The interior is ventilated via the blower for the heating, air conditioning or automatic air conditioning system.

Regular heating system:

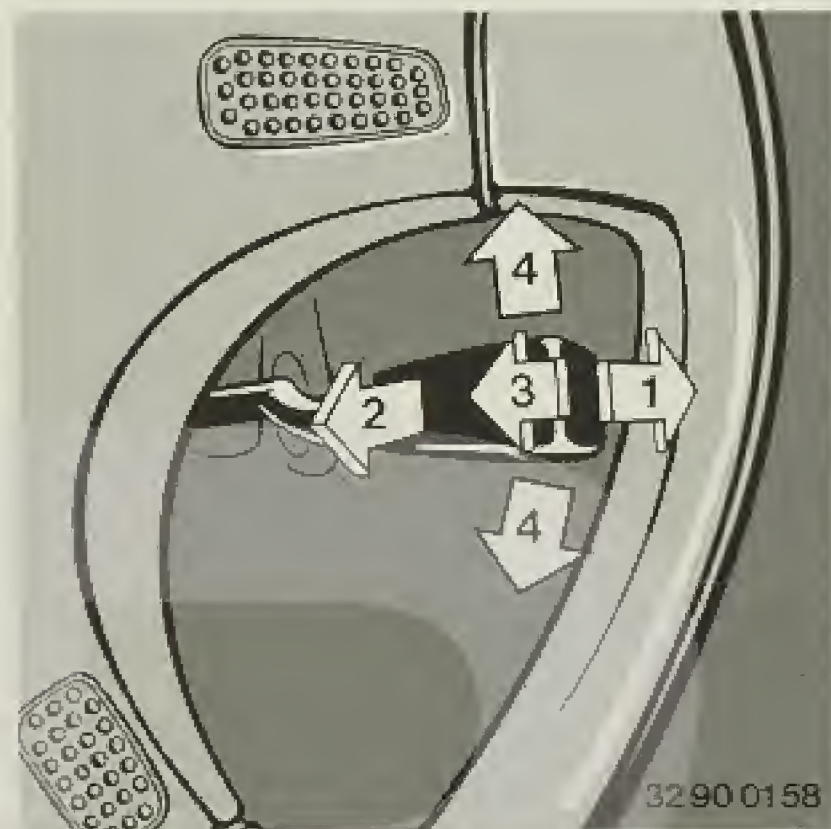
- Open slide controls as required; the most effective ventilation is afforded by the front fresh-air outlets and those at the end of the centre console.
- Set rotary airflow control to at least 12 o'clock.

Air conditioning:

Open slide controls as far as required; the most effective ventilation is afforded by the front and rear fresh-air outlets.

Automatic air conditioning:

Air emerges automatically through the controlled-flow, directional grilles on the fascia. For efficient operation of the independent ventilation system, these grilles must therefore be fully open.



Automatic cruise control *

Any desired driving speed above app. 40 km/h (25 mile/h) can be held constant and memorised.

1 – ACCEL.

Moving the lever briefly in this direction: The car's road speed is maintained and memorised. Each time the lever is moved again in this direction, the road speed is increased by app. 1 km/h.

Holding the lever in this position: The car accelerates although the accelerator pedal is not pressed down. As soon as the lever is released, the road speed then reached is maintained and memorised.

The controlled speed is abandoned and must be selected again if the car exceeds the memorised value by more than 10 km/h for longer than 1 minute.

On the BMW 525td/tds and on cars with ASC+T, the controlled speed is abandoned and must be selected again if the car exceeds the memorised value by 16 km/h or falls more than 8 km/h below it.

2 – DECEL.

Holding the lever in this position: The throttle is automatically closed to slow the car if it is already moving at a controlled speed. When the lever is released, the speed the car has then reached is maintained and memorised.

On the BMW 525td/tds and on cars with ASC+T, the car is slowed automatically by closing the throttle. After releasing the lever, the speed then reached is maintained and memorised.

Moving the lever briefly in this direction: Each time the lever is moved, the car slows by app. 1 km/h if it is already moving at a controlled speed.

On the BMW 525td/tds and cars with ASC+T, the speed is held and memorised. Each time the lever is moved briefly in this direction, the car's speed is reduced by app. 1 km/h.

3 – RESUME

Moving the lever briefly in this direction: The speed last memorised is recalled and maintained.

4 – OFF

Moving the lever briefly in this direction: **The cruise control is switched off, regardless of any other operating conditions of the traffic situation.**

The cruise control is also switched off if the car decelerates at more than 1.5 m/s², for instance on gradients, whenever the brakes are applied or the clutch pedal depressed (manual gearbox cars) or the automatic transmission selector lever moved from D to N.

The memorised speed setting is erased when the engine is switched off.

Warning:

Do not use the automatic cruise control:

- on twisting roads
- if heavy traffic does not permit you to maintain a constant speed
- if the road surface is slippery (snow, rain, ice) or loose (stones, sand).

PDC – Park Distance Control *

When activated, four ultrasonic sensors in the rear bumper measure the distance from the nearest object and indicate it by means of an audible signal.

The measuring zone for the two corner sensors begins approx. 30 cm (12 in) and ends approx. 60 cm (24 in) from the bumper. The measuring zone for the two central sensors ends after approx. 1.50 m (4 ft 11 in).

The distance is indicated by an intermittent tone. As the car approaches the external obstruction, the warning signal sounds at more frequent intervals, changing to a continuous tone if the object is less than 30 cm (12 in) away.

The system is activated automatically in ignition key position 2 when reverse is selected at the manual gearbox or position R at the automatic-transmission selector lever.

The system switches itself off when reverse gear is no longer engaged, but is re-activated if reverse gear is selected again.

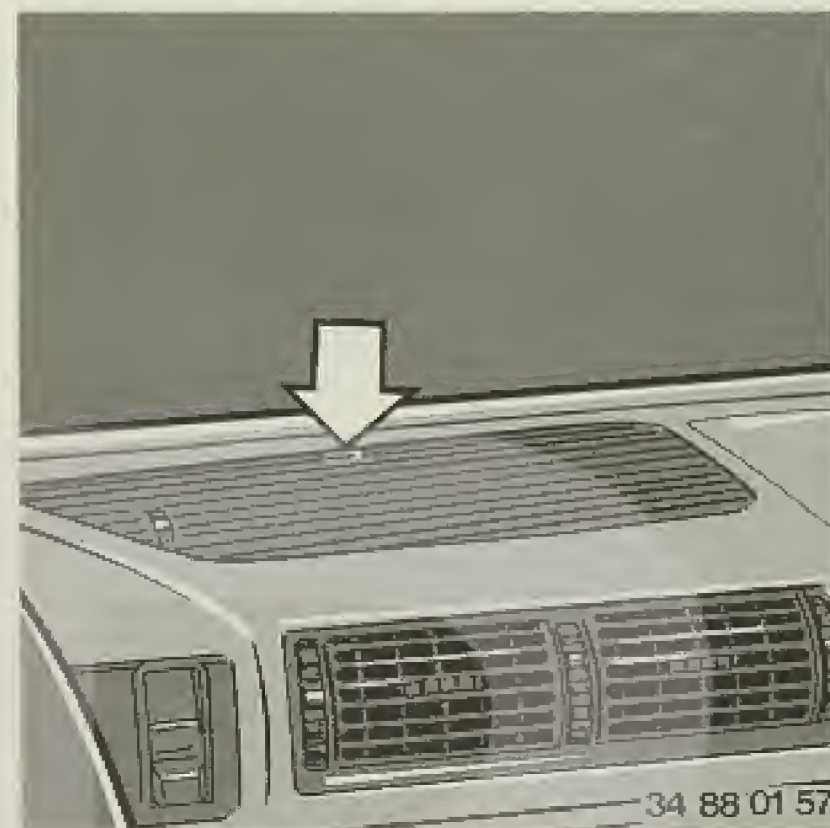
If the car does not approach an obstruction identified by the corner sensors more closely, for example if it is driven parallel to a wall, the warning signal is interrupted after three seconds.

Any malfunction is indicated by a short, higher-pitched continuous tone when the system is activated. Have the cause of the malfunction traced and rectified by a BMW service station.

Note:

Despite PDC, it remains the driver's responsibility to detect obstructions and ensure that the car keeps clear of them, particularly since the physical limits of the ultrasonic measuring system can be reached at any time, for instance in the case of towing hitches and couplings and thin or painted objects. Obstructions in the dead area not covered by the sensors are not identified, nor is a warning signal emitted.

Keep the sensors clean and free from ice to ensure that they remain fully operational.



Acoustic-signal burglar alarm*

If an unauthorised person attempts to open a door or lid, an alarm sounds for 30 seconds and the ignition is put out of action. The hazard warning flashers are simultaneously switched on* for 5 minutes, with the dipped headlights flashing in time* with the hazard warning flashers.

If the thief is not deterred and tries, for example, to start the engine or interfere with the radio*, the alarm sounds for a further 30 seconds each time such an attempt is made.

If the car is pushed away, the alarm sounds after a short distance.

The system is **activated and deactivated** only by the remote control.

The hazard warning flashers come on once to confirm that the system is active*.

When the system is active, the LED on top of the fascia flashes continuously.

If the LED flashes when the system is being activated, a door or the engine or luggage compartment is not properly closed. Even if this situation remains uncorrected, the remaining closed items will be protected and the LED flashes continuously after 10 seconds.

The LED goes out when the system is deactivated.

If the alarm has been triggered off, the LED subsequently flashes continuously. When the system is deactivated the LED flashes for 10 seconds to indicate that the car has been tampered with.

The **luggage compartment** on the saloon version is still accessible with the system activated. The LED flashes for 10 seconds as a reminder if the luggage compartment lid has been closed but not locked (to lock, turn key to right and pull out).

Interior protective circuit and tilt alarm sensor

If the rear window or a side window is smashed (all side windows should be kept closed, but a gap of up to 10 mm may be left in order to ventilate the interior during hot weather), again the alarm will sound. The same applies if the vehicle's position or angle is altered (e.g. if an attempt is made to remove the wheels or tow the car away, the tilt sensor is activated).

When the system is being activated, the LED flashes if a side window is open by more than the permitted amount. Even if the window in question is not subsequently closed, the remaining closed windows will be protected after 10 seconds and the LED flashes continuously.

To prevent **an unwanted alarm signal being set off by the tilt alarm sensor**, for example when the car is carried on a train or parked in a two-level garage, the tilt alarm sensor can be overridden:

Immediately after activating the anti-theft alarm system, repeat the activating routine (in other words operate the remote control a second time).

The LED will come on for a short time, then flash continuously. The tilt alarm sensor is then out of action.

Note:

If door loudspeakers are fitted improperly, the functioning of the window protective system may be impaired.

Important:

As far as possible, do not interrupt the convenient-closing process for windows and the sliding/tilt roof by activating the thief-proofing device.

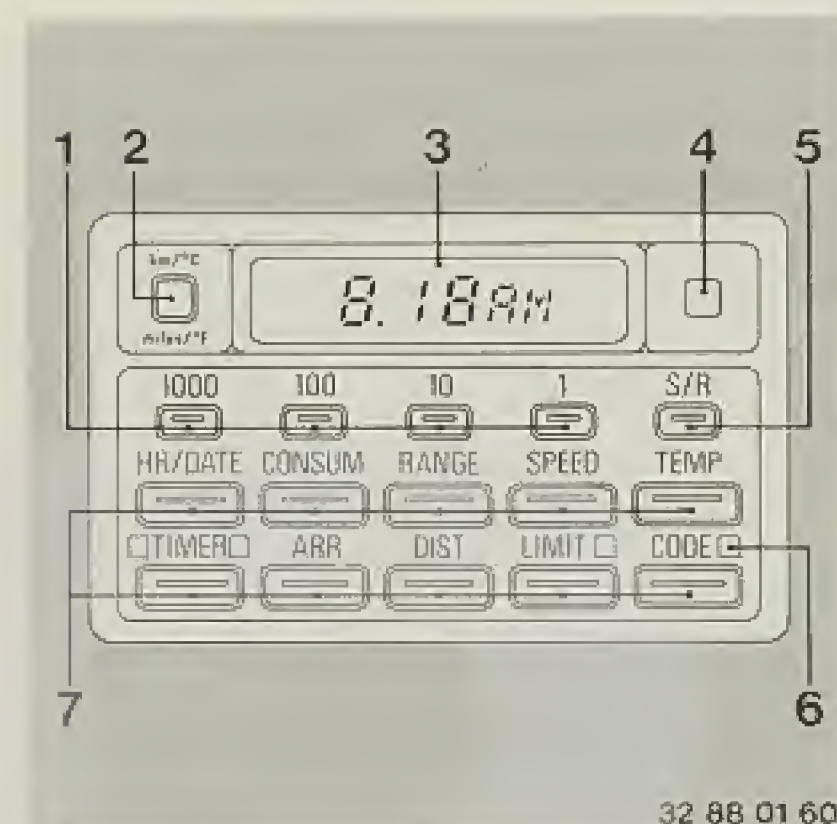
If this process is interrupted within the first 10 seconds and then restarted, the tilt alarm sensor will inadvertently be inactivated at the same time.

If this is the case, the system will have to be deactivated and then activated again for the tilt alarm sensor to function.

If the system cannot be de-activated by the normal routine, follow this emergency procedure:

- Open the door with the key; the alarm will sound for 30 s.
- Enter the car, close the door and turn the ignition key to position 1. The alarm will sound again for 30 s.
- Wait for app. 15 minutes (LED goes out after about 5 minutes; then wait a further 10 minutes). Do not open the door during this period, nor turn the ignition key away from position 1.

The system is now inactivated; have it checked by a BMW service station.



On-board computer*

- 1 – Input keys for numerical data
- 2 – Unit of measurement changeover
- 3 – Digital display
- 4 – Photo-transistor for automatic control of display brightness
- 5 – Start-Stop (SET/RESET) key
- 6 – Light-emitting diodes (LEDs)
- 7 – Information keys

The on-board computer can supply the following information outputs for safe and economical driving:

- HR/DATE – Time or date
- CONSUM – 2 average fuel consumption readings
- RANGE – Range on remaining fuel
- SPEED – Average speed
- TEMP – Outside temperature
- TIMER – Stopwatch and 2 switch-on times for independent fuel-burning heater/ventilation system
- ARR – Estimated time of arrival
- DIST – Distance from destination
- LIMIT – Speed limit warning
- CODE – Immobilisation of car

The computer is ready for use at ignition key position 1 and beyond.

For road-safety reasons, always **input information before commencing a journey**, or with the car at a standstill.

Press the appropriate information key to obtain the following displays (no other input is necessary):

- Average speed
- Average fuel consumptions 1 and 2
- Range on remaining fuel
- Outside temperature.

After pressing one of the information buttons:

- Average speed
- Average fuel consumptions 1 and 2
- Stopwatch (with independent heater/ventilation if installed)

press the S/R button (5) to restart or stop the computer; in the HOUR function, an hourly signal is programmed or erased.

Numerical inputs for:

- Time/date
- Speed limit warning
- Switch-on times 1 and 2 for independent fuel-burning heater/ventilation
- Distance from destination (used to estimate the time of arrival)
- Immobilisation of car

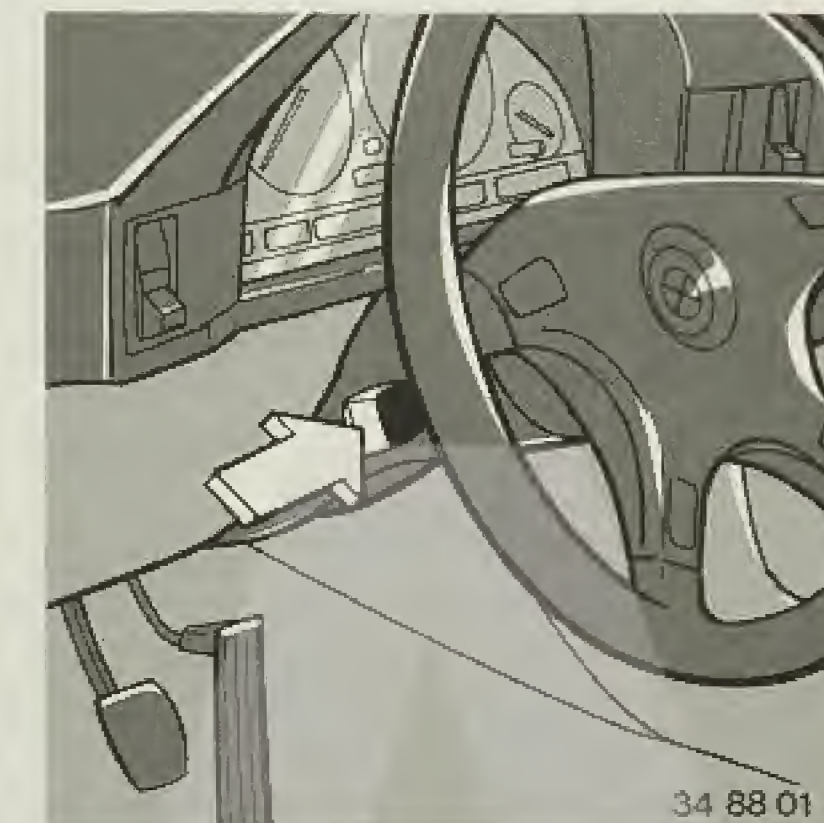
are described on the following pages.

After selecting the appropriate information key, the unit of measurement changeover key (2) can be used to display any individual item of information (not applicable to CODE) in either metric or Imperial units.

If the power supply to the on-board computer is interrupted, e.g. when changing the battery, all stored data are erased.

Once the power supply is reconnected, the required information data (time, date, speed limit warning and switch-on time if required) must be input again.

Contact a BMW service station if the fault display PPPP should appear.



Remote control

If the turn indicator lever is pushed in briefly:

Information is displayed additionally on the instrument panel strip (except BMW 520i, 525td/tds): items can be called up in succession. The on-board computer display remains unchanged when other items are shown on the instrument panel.

To erase the display on the instrument panel, press the Check Control button on the panel or the CODE key.

Note: the display of Check Control warnings takes priority over information from the on-board computer.

If you wish to have all the information available for display on the instrument panel, proceed as follows:

- Press the turn indicator lever in for 3 seconds; the PROG 1 display will appear (P 1 on the on-board computer).
- Press the S/R key.

If only a limited amount of information is required on the instrument panel display, proceed as follows:





- Press the turn indicator lever in for 3 seconds, until the PROG 1 display appears (on the on-board computer: P 1).
- Press the desired information keys.

Note:

For average fuel consumptions 1 and 2, switch-on times 1 and 2 for independent heating/ventilation and the date, the following should be taken into account: if both fuel consumption values are displayed, for instance, the CONSUM key must be pressed twice. If only average fuel consumption 2 but not average fuel consumption 1 is required, press the units of measurement key after the CONSUM key. Each time the changeover key is pressed again, fuel consumption readings 1 and 2 will alternate. The same procedure applies to switch-on times 1 and 2 and the date.

- Press the S/R key.

Computer data input and information displays

Important: input sequence for numbers:    









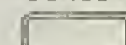



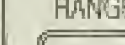
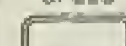


The memory will not accept illogical inputs.

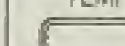

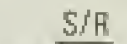

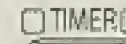
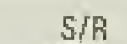

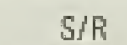
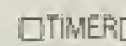
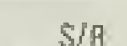








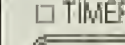
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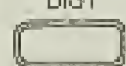
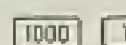



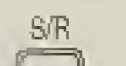


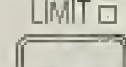
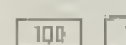
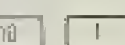

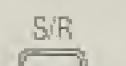

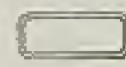
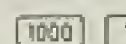



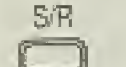



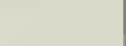
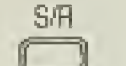
When a number is input, the number stored in the memory is erased; digits can be al-

To input to memory: press the S/R key.

The appropriate numerical display increases by one each time key is pressed or every half a second if the key is held in.

	Input: press keys in the sequence illustrated	Info. display: if an unwanted output is displayed, press approp. information key	Notes on input and information display
Time (Date)	HR/DATE       Hour (Day) Minute (Month) S/R 	HR/DATE 	If display is ---- HOUR (after power failure), input time again. Clock can be started after input to the nearest second by pressing the S/R key (e. g. when a radio time signal is heard). Date input as for time. After pressing the S/R key the year is displayed. Input the correct year if necessary and press the S/R key again. To obtain date display from other information: press HR/DATE key twice. To correct the time or date display, alter the numerals and then press the S/R key. Hourly signal: in HOUR function, press S/R key; a sound-wave symbol is displayed. Three pips are heard just before each full hour. The time is displayed briefly on the instrument panel strip. To switch off reminder signal: in the HOUR function, press S/R again. To obtain time and date display in ignition key position 0: press the HR/DATE key.
Average consumptions 1 and 2	CONSUM  S/R 	CONSUM 	Recalculated since start of journey when S/R key is pressed. Repeated use of the CONSUM key selects average consumption values 1 and 2 alternately; an indication of which value has been selected appears on the digital display for a short time
Range	- 	RANGE 	Plus sign (+) in front of display indicates "full tank".
Average speed	SPEED  S/R 	SPEED 	Recalculated from start of journey when S/R key is pressed.

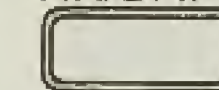
	Input: press keys in the sequence illustrated	Info. display: if an unwanted output is displayed, press approp. information key	Notes on input and information display
Outside temperature	-	TEMP 	Automatic temperature display below +3° C (37.5° F). Gong sounds and unit of measurement flashes for 8 seconds. The temperature value is displayed briefly on the instrument panel strip.
Stopwatch - Start	 → 		There is no stopwatch function in cars with an independent fuel-burning heater/ventilation system. When the stopwatch function is running, the LED lights up.
- Intermediate time	-	TIMER 	LED flashes, stopwatch continues to run. Press the TIMER key again: the running stopwatch display will reappear.
- Stop	 → 	-	To stop the stopwatch when another display is shown. Otherwise, simply press S/R. Press S/R again to restart the stopwatch.
Independent heater/ ventilation system - Direct switch-on	 → 	-	When the TIMER key is pressed, the current inputs to the independent heater/ventilation system are displayed. Direct heater operation in ignition key position 1. Switching off also possible in key position 0. In the TIMER function, press S/R key only.
- Direct switch-off	 → 	-	
- Preselecting switch-on times 1 or 2	      S/R 	 	Input is possible only when the clock is in operation. With the TIMER function selected, press the key once only; for switch-on time 2, press it again (confirmed on display). When the LED comes on, the heater/ventilation system will run for 30 minutes from the selected switch-on time. During the actual period of operation, the LED flashes. It goes out when the system is switched off. To correct the switch-on time, follow the same procedure as for initial inputs. After selecting the switch-on time inputs 1 or 2, activate or de-active the timer by pressing the S/R key. When activated, the appropriate LED comes on.

	Input: press keys in the sequence illustrated	Info. display: if an unwanted output is displayed, press approp. information key	Notes on input and information display
Distance to destination	DIST      S/R 	DIST 	If the preset distance is exceeded, the additional distance is still counted, but preceded by a minus sign.
Estimated time of arrival	—	ARR 	The probable arrival time on the basis of the distance input is continuously recalculated according to driving style at any given moment. This information is only available after a distance has previously been input. If the distance has already been completed, the DIST function appears instead of the ARR function. If selected from another function, ---- ARR is displayed.
Speed limit warning	LIMIT     S/R 	LIMIT 	If the input speed limit is exceeded, the LED flashes and a gong sounds. The limit value appears briefly on the instrument panel display. Press the information key again to switch off the speed limit warning: the LED will go out, but the speed value in the memory is retained. To store the speed at any given moment in the memory: in the LIMIT function, press the S/R key.
Code to immobilise car — to activate	Ignition key in position 1 CODE      S/R 	—	Code numbers from 0000 to 9999 can be input. Important: memorise the code number! Ignition key turned to 0: LED comes on for up to 36 hours.
— to de-activate	Ignition key at 1 or 2     (Input code) S/R  or start engine	—	Warning: if 3 incorrect inputs are made consecutively, or 3 attempts are made to start the engine, an alarm sounds for 30 seconds.

Further information on the on-board computer

(Changes in information programs are only possible after pressing the relevant information key.)

HR/DAT



The time and date are displayed alternately by pressing the key. The date display disregards leap years and must be corrected manually as appropriate.

CONSUM



By giving the instruction to restart calculation at a carefully selected moment, average consumption for the entire journey and for part of the journey can for instance be calculated at the same time.

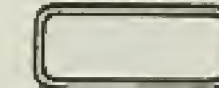
RANGE



By pressing this key, the estimated distance which can still be covered with the fuel remaining in the tank is computed continuously according to driving style and displayed when selected. Below a range of 15 km (9.3 miles), a flashing four-segment display indicates that more fuel is urgently required.

The on-board computer only registers the addition of fuel in ignition key positions 1 and 0, and when at least 5 litres of fuel are added. A plus sign (+) before the display indicates that the car has a greater range than indicated, as a result of limits in recording fuel level in the tank.

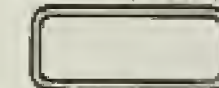
TEMP



The warning gong sounds again if the temperature has increased to +6° C (43° F) at least once since the last warning signal, then dropped below +3° C (37.5° F) again.

Note that the absence of a low-temperature warning does not mean that ice may not have formed at a temperature above +3° C (37.5° F), for example on bridges or in shadow.

TIMER



The maximum time which can be measured is 99 hours 59 minutes. The time display shows seconds and tenths of a second for the first minute, then minutes and seconds, and hours and minutes after the first hour. The stopwatch is halted when the ignition key is turned to position 0, and restarts when it is turned to position 1 or beyond.

Independent heater/ventilation system:

If the key is pressed again when other information is being displayed, the following information can be obtained in succession: current situation, switch-on time 2, current situation again etc.

LIMIT



A new speed limit value can be input or displayed. The gong will sound again if the car has slowed down by 5 km/h or more at least once since the gong first sounded and then been accelerated up to the input speed limit again.

CODE



When the system has been activated, the engine compartment lid, radio and any attempts to start the engine are monitored.

If the engine compartment is not properly closed or the radio is removed, the LED flashes for 10 seconds when the ignition key is turned to 0.

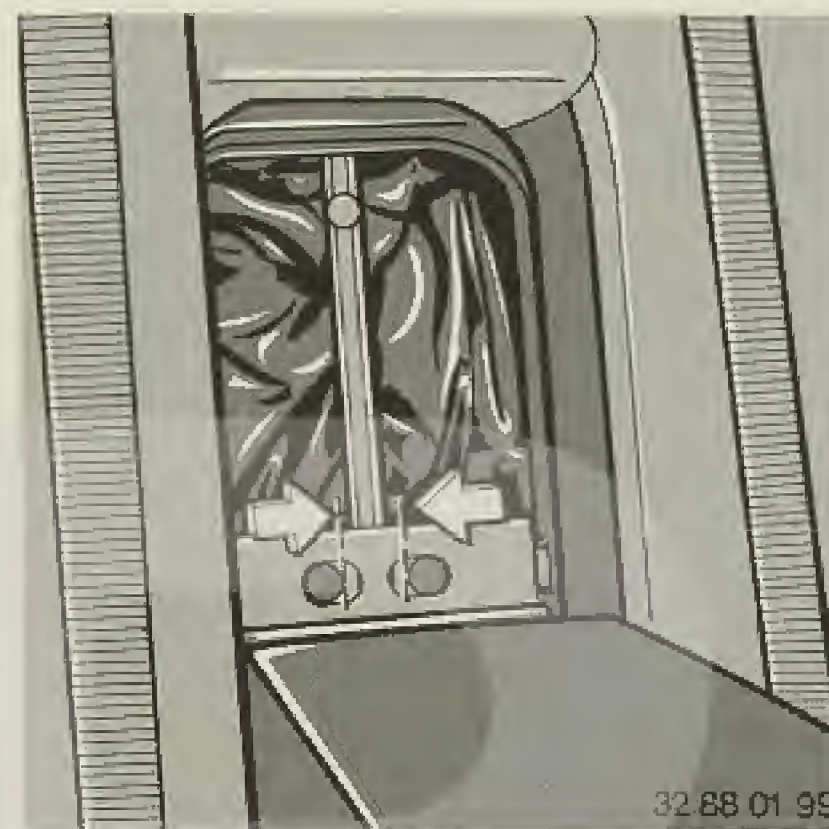
If the ignition key is turned to 1 or 2 with the system activated, the gong will sound and a ---- CODE display will appear. This requires the code to be input. If the engine is started without a code input having been made, the warning gong sounds continuously.

Emergency starting procedure if the code has been forgotten:

- Disconnect and (after app. 5 minutes) reconnect the battery (see Page 91), alarm sounds.
- Turn the ignition key to position 1.
- A time display will appear and run down to zero for 15 minutes.
- After 15 minutes, the engine can be started.

If the code is remembered, it can be input during the waiting period of 15 minutes:

- Press the CODE key
- Input the desired code
- Press the S/R key
- Start the engine.



32 88 01 99

Ski bag*

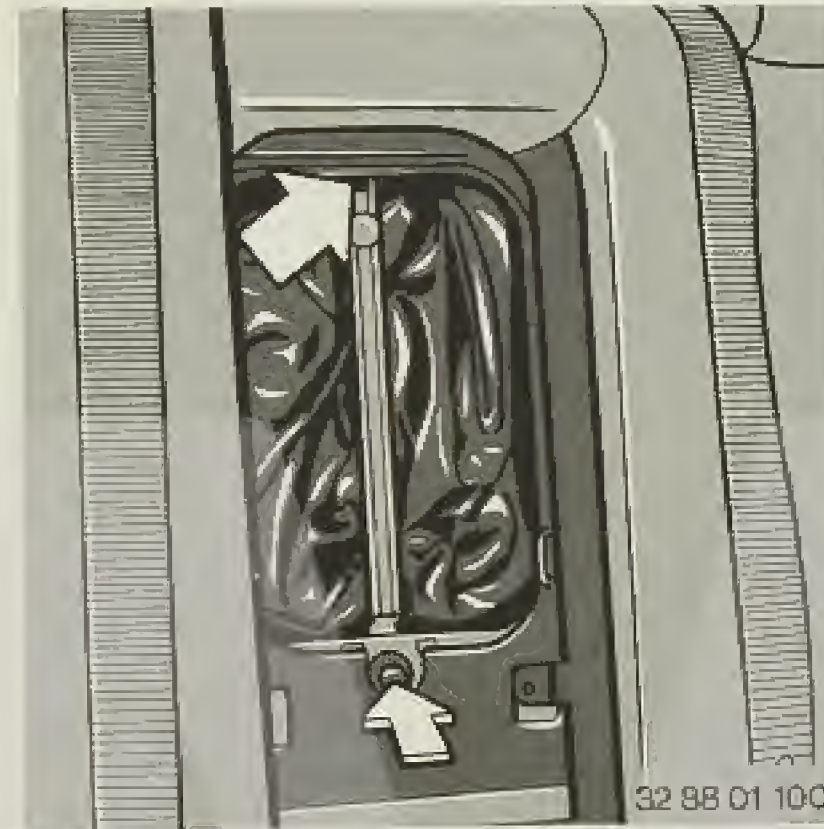
The ski bag is a safe, clean method of carrying 3 to 4 (max.) pairs of skis.

With the aid of the ski bag and the space represented by the length of the luggage compartment, skis up to 2.10 m long can be carried. Note that if several pairs of skis are carried in the bag, the available space inside is reduced where the bag becomes narrower, so that only 2 pairs with the maximum length of 2.10 m can be carried.

Loading the ski bag

Fold down the centre armrest of the rear seat and detach the trim at the upper burr fastener.

Press together the two locking levers and lift out the centre armrest.



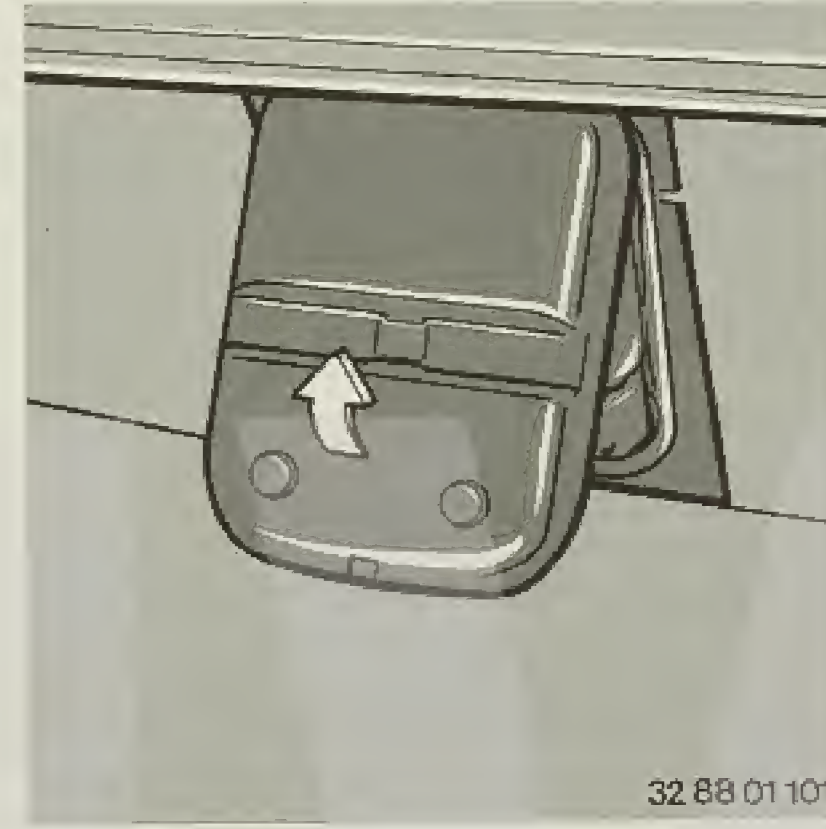
32 88 01 100

Important:

When installing the centre armrest, ensure that the mounting lugs engage in the guides in the aperture.

To release the loading flap in the luggage compartment, press the round knob, then disconnect the retaining loop at the upper hook and lower it.

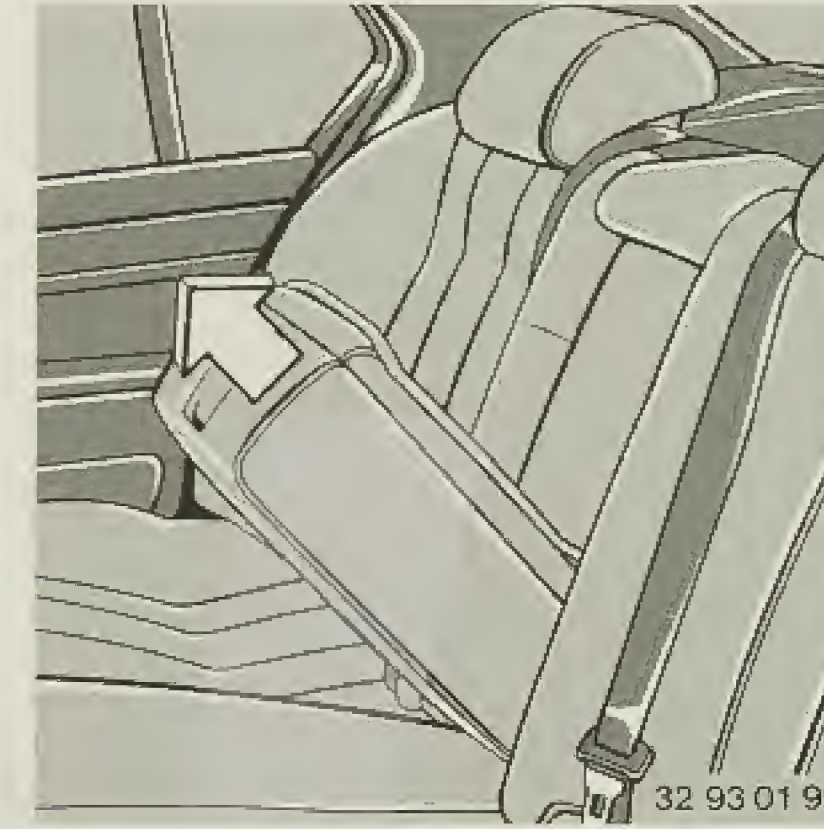
Spread the ski bag out between the front seats. A zip fastener is fitted for ease of access to the stored objects and to allow any moisture in the ski bag to dry out more effectively.



32 88 01 101

Secure the loading flap from the luggage compartment side against the underside of the rear-window shelf, using the magnetic retainer.

Make sure that the skis are clean before they are inserted into the bag, and that there are no sharp edges which could damage it.



32 93 01 99

Centre armrest with storage compartment*

Fold down the centre armrest (do not remove). Release the trim at the upper burr fastener and lay it forward over the armrest.

If more space is required, the centre armrest can be removed:

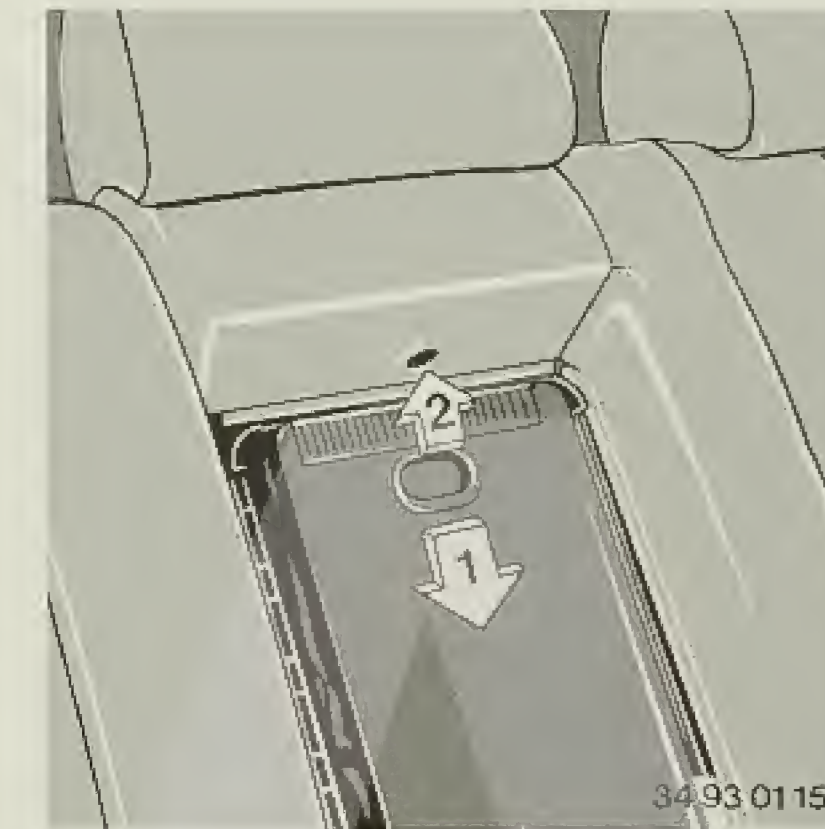
Fold out the armrest half-way, remove the trim at the top at the burr fastener and lay it down to the front. Hold the front of the armrest with one hand, reach behind the armrest with the other hand and tug upwards in a forward direction to remove.

Installation:

Introduce the armrest into the holders on both sides in the same position as for removal and press down with a jolt to engage.

Caution:

When removing and installing, take care that the pins on either side do not damage the seat upholstery.



34 93 01 152

BMW touring

Fold down the centre armrest (do not remove it).

Detach the trim at the upper burr fastener and lay it down on the armrest.

Press button 1 down and fold cover down to the front.

Press button 2 to disengage the flap in the load area.

The material from which the ski bag is made is waterproof, and melted ice or moisture condensate should therefore be wiped off after use.

If it is not used for a lengthy period, make sure that it is folded in a dry condition.

Radio operation*

The strength of the signal received by your car radio aerial, and thus its output quality, depend on the position of the receiver and the height and directional location of the aerial.

In this respect, certain concessions have to be made for a mobile radio such as that in a car. The position of the radio is constantly changing, and it is impossible to keep the aerial aligned with the direction of signal transmission. (The rear window heating elements also act as a radio aerial; on the BMW touring, the aerial wires are in the left-hand rear side window.) Other disturbance factors are high-tension overhead wires, poor or missing interference suppression on other vehicles, buildings and natural obstacles. Even if your car radio is perfectly tuned and your car is equipped with interference suppression, unavoidable noises and loss of high-quality sound can be quite severe.

Climatic effects such as fog, rain and snow can interfere with good radio reception.

As the **strength of sunlight** increases, long, medium and short wave reception is adversely affected. These wavebands can be heard best after dark, when the ionosphere reflects more of the transmitted signals back to earth.

The medium (MW), long (LW) and short (SW) wavebands provide a more extensive or, in some cases, exceptionally wide reception range, since the signals are dispersed not only as **ground waves**, but also as **space waves**, which are reflected back to earth by the ionosphere.

There are physical reasons why the quality of **medium wave** reception is not as good as on FM. Long-distance reception, however, is quite acceptable, particularly at night, so that a large number of stations can be picked up. However, station density is such that mutual interference often occurs.

Sound reproduction on the medium waveband seems rather dull in quality by comparison with FM.

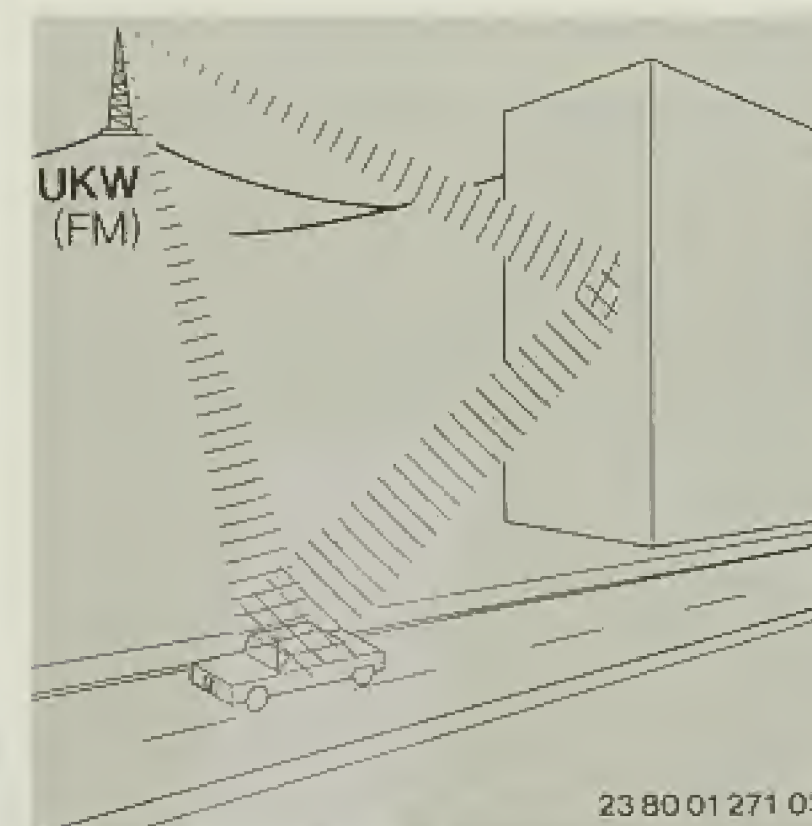
On the **long waveband**, transmitters still farther away than on medium wave can be picked up.

Short wave offers the longest theoretical reception distance. Maximum station density and, subject to basic physical limitations, best sound quality, are obtained in the 49-metre band.

The **very high frequency (VHF)** broadcasting system uses the frequency modulation (FM) principle, which offers far better sound quality than the other wavebands. However, reception is limited to about 100 km (60–65 miles) from the transmitter, since the radio waves are emitted in a straight line. As the distance between the transmitter and receiver increases, background noise becomes more of a problem, and finally the station can no longer be heard or is displaced by a more powerful one which the car is approaching. This situation can only be avoided by retuning to a stronger signal.

Stereo transmissions, if available in your area, can normally be received on FM only. As you move away from the transmitter, interference becomes noticeable. In this case, retune to a station providing a more reliable stereo signal.

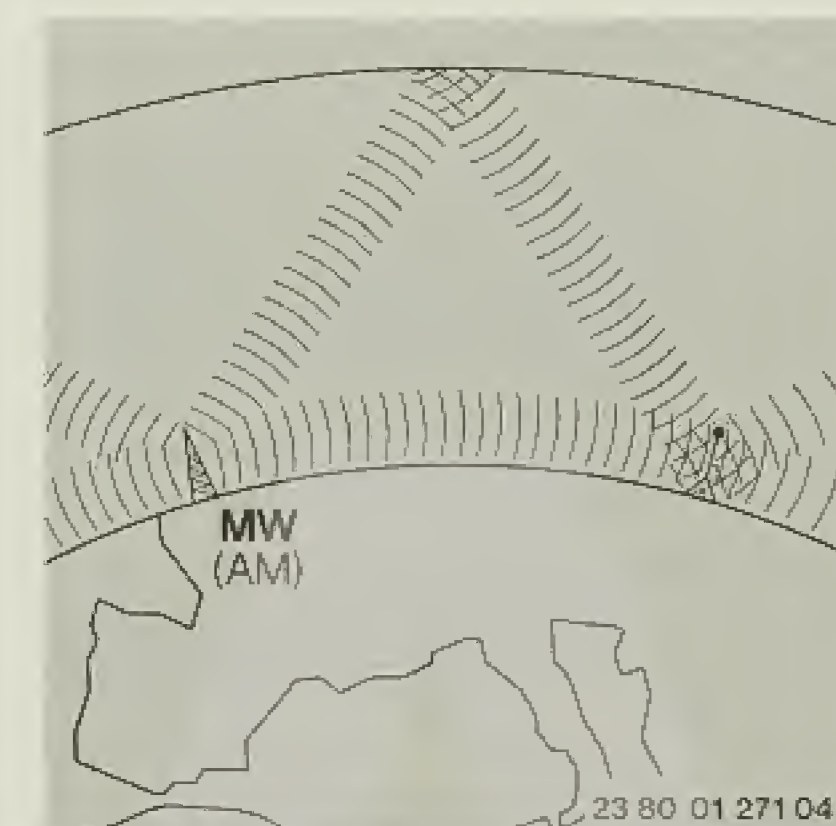
When radios equipped with the Radio Data System (RDS) have this function activated, they automatically select the transmitter offering the best quality signal when tuned to a station which is transmitted on more than one frequency.



Hissing, sizzling and splashing noises occur when reflected signals are picked up by the aerial a fraction of a second after the main signals, from large buildings nearby for example. The sound level also fluctuates repeatedly as a result.

The Aerial Diversity System (multi-aerial system) has a processor which evaluates the signals being received and utilizes only the most powerful one. This helps to reduce the level of interference significantly.

D-network telephones not recommended by BMW can also cause interference if the limit of their capacity is reached when crossing the boundaries between cells. This interference takes the form of a low-pitched hum in the loudspeaker system.



Continuous background noise normally indicates that the edge of the transmission zone has been reached, or that the car has been driven into a 'shadow', where no direct signals can be received. The only remedy is to tune to a nearer or more powerful transmitter.

Severe fade is a phenomenon more often encountered on medium wave and usually accompanied by distortion. It is caused by the superimposition of ground and space waves at the reception point.

Fluttering noise is caused by signal fade, when the line of sight between the transmitter and receiver is blocked by large buildings or topographical features. A similar effect is sometimes heard when driving along tree-lined roads.

Car telephone*

Note:

Mobile communication systems (car telephones, two-way radio etc.) can cause interference if they are not approved for use in your car. Since BMW cannot examine and test each product, it is unable to accept any responsibility for the installation of items it has not approved. Before purchasing any such equipment you are recommended to consult your BMW service station.

Furthermore, in order to safeguard your BMW's operating reliability, do not operate any in-car telephones or other mobile radio equipment with an aerial **inside** the car or not fitted to the car's exterior.

Starting the engine

- Apply the handbrake.
- Move the gear lever to neutral (the automatic transmission selector lever to P or N).
- In particular at low outside temperatures, switch off all electric power consumers and fully depress the clutch pedal.
- **DO NOT DEPRESS THE ACCELERATOR PEDAL WHEN STARTING THE ENGINE.** However, if the engine does not start at the first attempt, e.g. in very cold or hot conditions, press the accelerator pedal half-down when trying again.

Additional notes

Run the starter long enough for the engine to start, but no longer than 20 seconds without a break. Release the ignition key as soon as the engine starts.

Starter motor repeat lock:

Before repeating an attempt to start the engine, turn the ignition key back from 1 to 0. This is to prevent re-engagement of the starter pinion while the engine is still turning.

Avoid repeated starting attempts at short intervals, or else the spark plugs will become wet.

In severe frost:

Observe a 20- to 30-second pause between attempts to start the engine in order to protect the battery.

BMW 525td/tds

Cold engine

Hold the ignition key in position 2 until the yellow "preheating" telltale lamp goes out.

Operate the starter until the engine starts. This may take up to 40 seconds at extremely low temperatures.

The accelerator pedal position has no effect on starting the engine.

Warm engine

If the orange "preheating" telltale lamp does not come on, the engine can be started immediately.

Bleeding the diesel fuel system

Even if the tank has been run dry, it is not normally necessary to bleed the fuel system.

If starting difficulties are encountered, run the starter motor continuously for about 20 seconds.

The engine is automatically controlled to run at an idle speed appropriate to the operating conditions in each case.

Do not wait for the engine to reach its normal operating temperature with the car standing still, but drive off straight away at a moderate engine speed.

Switching off the engine

Turn the ignition key to position 1 or 0.

Energy-conscious driving:

Fuel consumption is influenced above all by **driving style**.

- Do not warm the engine up to operating temperature at idle speed and never allow the engine to idle for long periods.
- Do not run the engine up to maximum speed in 1st gear; use it for pulling away only.
- Shift up to a higher gear in good time and make full use of the higher and more economical 3rd, 4th or 5th gears.
- Avoid driving for long periods at full throttle.
- Do not carry any unnecessary weight.
- Comply with the recommended tyre pressures.

Furthermore:

Energy-conscious driving reduces exhaust and noise levels.

Warning:

The car should never be left unattended with the engine running; this constitutes a very serious potential hazard.

Catalyst models

The catalytic converter fitted in the exhaust system reduces the exhaust emissions in the exhaust gas.

Warning:

High temperatures build up at the catalytic converter (as on all cars with this form of exhaust emission control). Make sure that no easily combustible material (for example hay, leaves, grass etc.) comes into contact with the hot exhaust system when the car is driving, idling or parked. If this material were to ignite and cause a fire, very severe injuries or damage could result.

Do not remove the heat shields from the exhaust system, or apply underseal to them.

Spark-ignition engines

These cars must **only be run on unleaded fuel**.

Even minute amounts of lead in the fuel will cause irreparable damage to the lambda probe and catalytic converter.

The following points must be observed if the engine is to remain fully functional and free from damage:

- Always have the prescribed maintenance work carried out.
- Never run the fuel tank completely empty.
- If the engine misfires, switch it off immediately.
- Only tow-start when the engine is cold, as otherwise unburned fuel will reach the catalytic converter. It is preferable to use jump leads to start the car.

- Avoid other situations in which unburned or incompletely burned fuel could reach the catalytic converter, e.g.:

Frequent, prolonged operation of the starter motor within a short period, or repeated unsuccessful starting attempts. (Stopping and restarting the engine when functioning properly will present no problems.)

Allowing the engine to run with the spark plug caps disconnected.

If unburned fuel reaches the catalytic converter as a result of misfiring or fuel-air mixture preparation malfunctions, overheating and damage may result.

Diesel engines

If the car has a catalytic converter, any petrol (gasoline) added to the diesel oil in winter to prevent paraffin separation must be **unleaded** (see page 106).

Engine refinement is influenced by the exhaust emissions purification technology, fuel consumption and the quality of the fuel used.

The modified operating conditions are largely taken into account by the electronic measuring and control functions and the high-quality design and workmanship of individual components, e.g. in individual features such as the electronic ignition and fuel injection system.

The car's altered engine and road behaviour, for instance when accelerating from a low speed, when the combustion process resumes after the cruise control has been in operation and when the engine is running at a low idle speed, reflect the compromise between the need for low fuel consumption, improved environmental acceptability and luxury driving; these differences constitute no cause for concern.

The Digital Motor Electronics system fitted for optimum engine operation causes a certain period of uneven running when this system has been disconnected from the power supply and reconnected again. The engine will regain its customary refined running once it has passed through all adaptation phases at operating temperature.

Running in

During the running-in period, a degree of stiffness may be noticed at the gear lever, in the steering and other assemblies. This will disappear after a short while and should be regarded as part of the normal running-in process.

Please observe the following notes in order to achieve a long operating life and maximum efficiency for your vehicle.

Engine and final drive

For the first 2000 km (app. 1300 miles):

Drive at varying road and engine speeds, but without exceeding the following upper limits:

Cars with spark-ignition engine:	4500/min
Cars with diesel engine:	3500/min
BMW 518i, 525td, 525tds:	150 km/h (93 mile/h)
BMW 520i, 525i, 525ix:	160 km/h (100 mile/h)
BMW 530i, 540i:	170 km/h (106 mile/h)

Do not depress the accelerator pedal to the full-throttle or kickdown position.

After 2000 km (app. 1300 miles) have been covered, higher engine and road speed can be adopted gradually.

If a new or exchange engine or final drive is fitted to the car at a later date, the running-in procedure must be repeated.

Tyres

The production methods used in the tyre industry result in brand-new tyres having less than their designed road-surface adhesion. For this reason, you are urged to drive with restraint for the first 300 km (app. 200 miles).

Brakes

As a means of achieving uniform wear patterns and a good friction coefficient on new brake linings, try to brake only at moderate rates of retardation during the first 500 km (app. 300 miles), and also prolonged, severe loads, such as when descending lengthy mountain passes.

Brake linings and discs need the distance and treatment stated above to bed down properly and avoid premature wear.

The handbrake operates separately from the foot brake system, with its own drums, and therefore also has to be run in.

If the braking effect declines noticeably with time, the driver can repeat the bedding-down process provided due care is exercised:

If road surface, weather and traffic conditions permit (care must be taken not to obstruct other road-users), the desired effect can be achieved by applying the handbrake lightly at about 40 km/h (25 miles/h) until definite resistance is felt. Then pull up the lever to the next notch and drive the car about another 400 metres before releasing the handbrake completely.

Fuel consumption

The standard test method used to determine fuel consumption (DIN 70030, Part 1) obtains values which are by no means identical with the car's average fuel consumption in everyday driving. After all, this depends on a variety of factors such as driving style, load, road conditions, traffic density and flow, weather, tyre pressures etc. For fuel consumption according to DIN standard see page 128.

Additional practical tips

Do not allow the engine to warm up to operating temperature at idle speed.

At exceptionally low temperatures however, allow the engine to run for about half a minute at a fast idle to ensure that oil reaches all parts of the engine.

Never run a cold engine at high speed, as this will cause rapid wear and shorten its operating life.

When driving under load, accelerating or climbing hills, try to prevent engine speed falling below 1500/min. Shift to a lower gear in good time, particularly on uphill gradients.

When declutching, press the clutch pedal down fully. During normal driving, do not rest the foot on the clutch pedal.

Warning:

Do not rest your foot on the brake pedal while driving the car. Even slight continuous pressure on the brake pedal can cause overheating, pad wear and possibly failure of the complete brake system.

Recommendations

After a lengthy period in heavy city traffic or in a slow-moving queue of vehicles, let the engine "breathe deeply" by driving for a few kilometres at engine speeds above 3000/min. This will disperse any soot deposits in the combustion chambers.

Warning:

When the car is driven on a wet or slushy surface, wedges of water can build up between the tyres and the road. This is known as aquaplaning, and can even lead to the tyre losing contact with the surface, so that the car cannot be steered or braked properly. Always reduce speed as a precaution on wet surfaces.

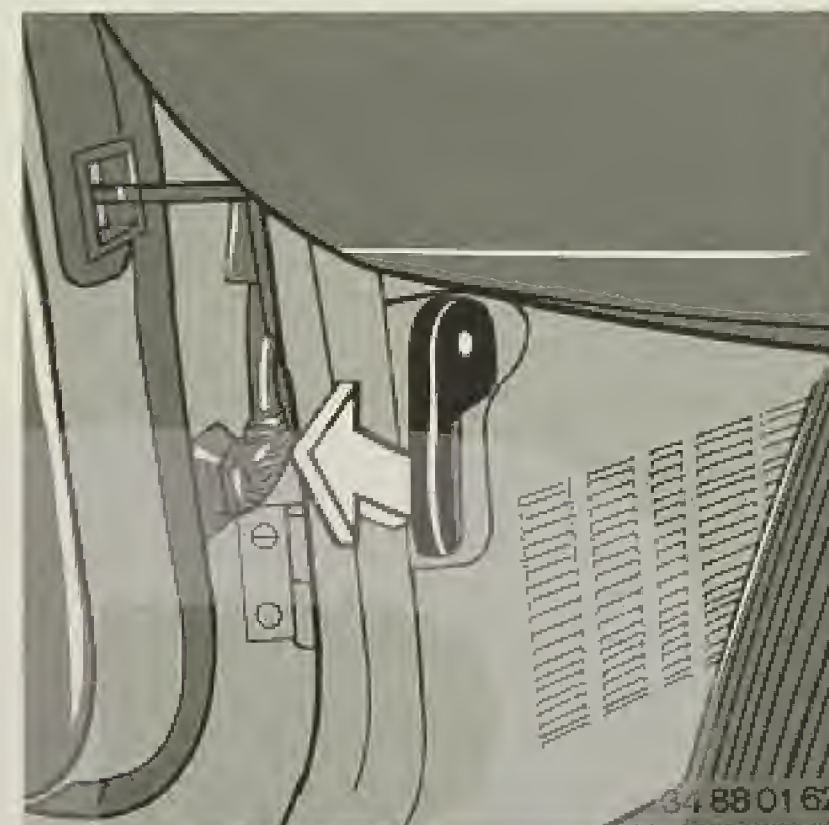
Always keep the luggage compartment lid closed when driving along to prevent dangerous exhaust fumes entering the car. If you have to drive with the luggage compartment lid open, when transporting a bulky load for example, you are advised to close all the windows and the sliding/vent roof (if fitted) and to run the heating/ventilation blower at a medium to high setting.

Warning:

Do not leave any heavy or hard objects on the rear-window shelf, or else they could injure the car's occupants when the brakes are applied suddenly.

If you hang clothing from the hooks provided, make sure that the driver's view is not obstructed.

Do not hang very heavy articles from these hooks, in case they cause injury to the car's occupants when the brakes are applied.



Engine compartment lid

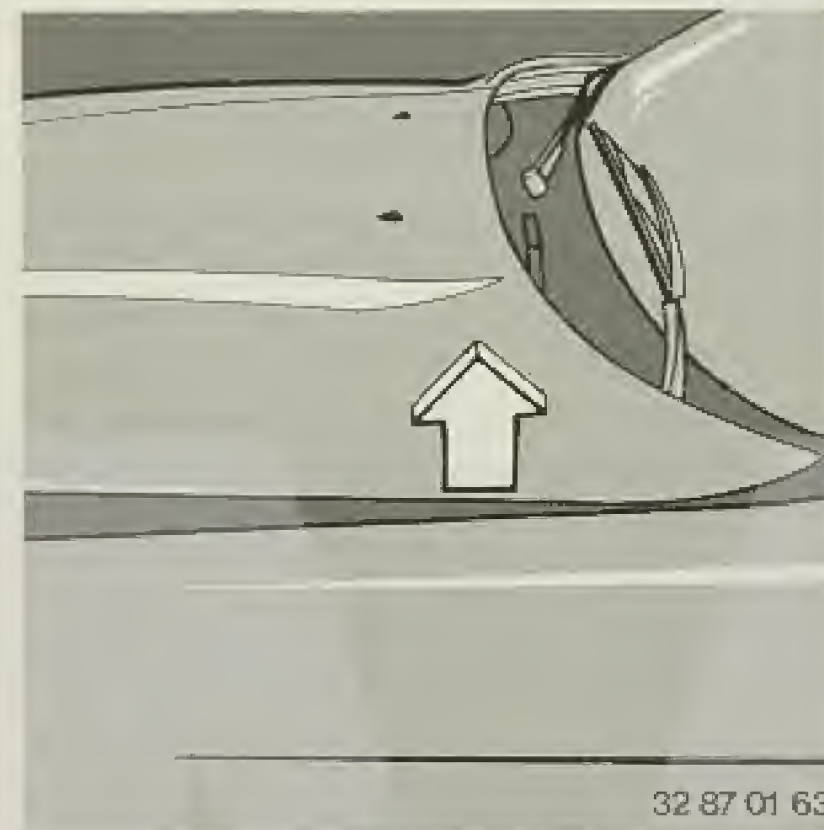
To unlock: pull the lever on the left under the instrument panel.

Warning:

Stop the engine and allow it to cool down before carrying out any work inside the engine compartment.

The battery must be disconnected before performing any work on the car's electrical system and any other repair and maintenance work, particularly inside the engine compartment.

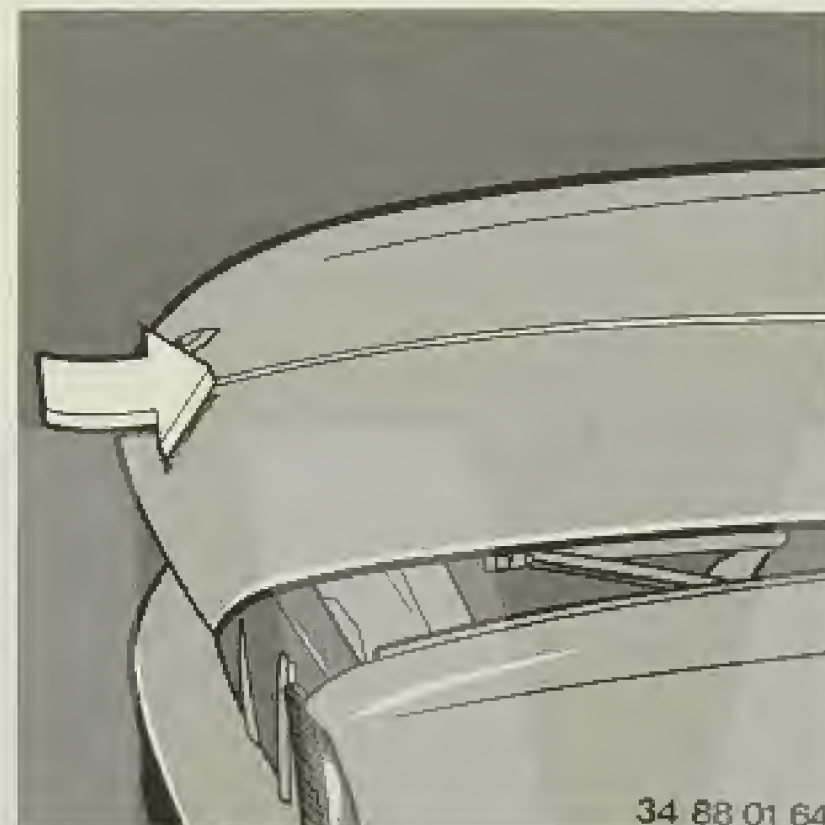
Careless handling of parts and materials when working on the car may involve personal risk. Please observe the relevant notes and instructions. If you are unfamiliar with the regulations or instructions which must be complied with, have any such work performed by your BMW service station.



A built-in spring mechanism slides the lid forwards automatically to make it easy to open.

Engine compartment light*

Comes on when the lid is opened and the vehicle lights are on.

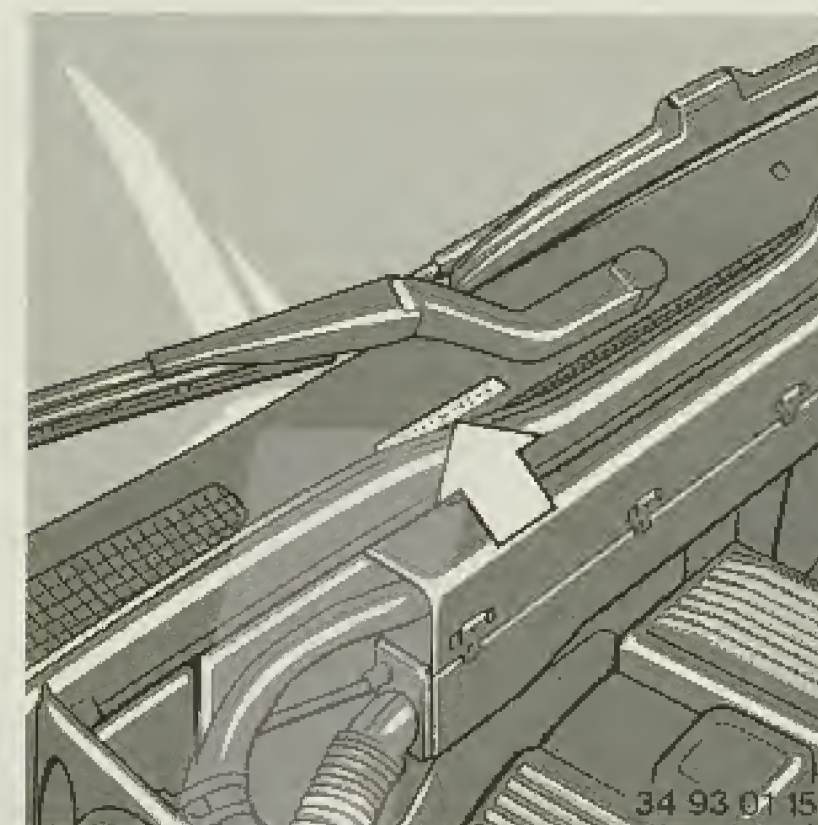


To close the lid, push the front evenly on both sides until it is heard to engage.

Raise slightly to ensure that the catches are holding the lid securely.

Warning:

If you notice that the engine compartment lid is not shut and held firmly in the closed position while you are driving the car, stop as soon as possible and close it correctly.



Vehicle identification number

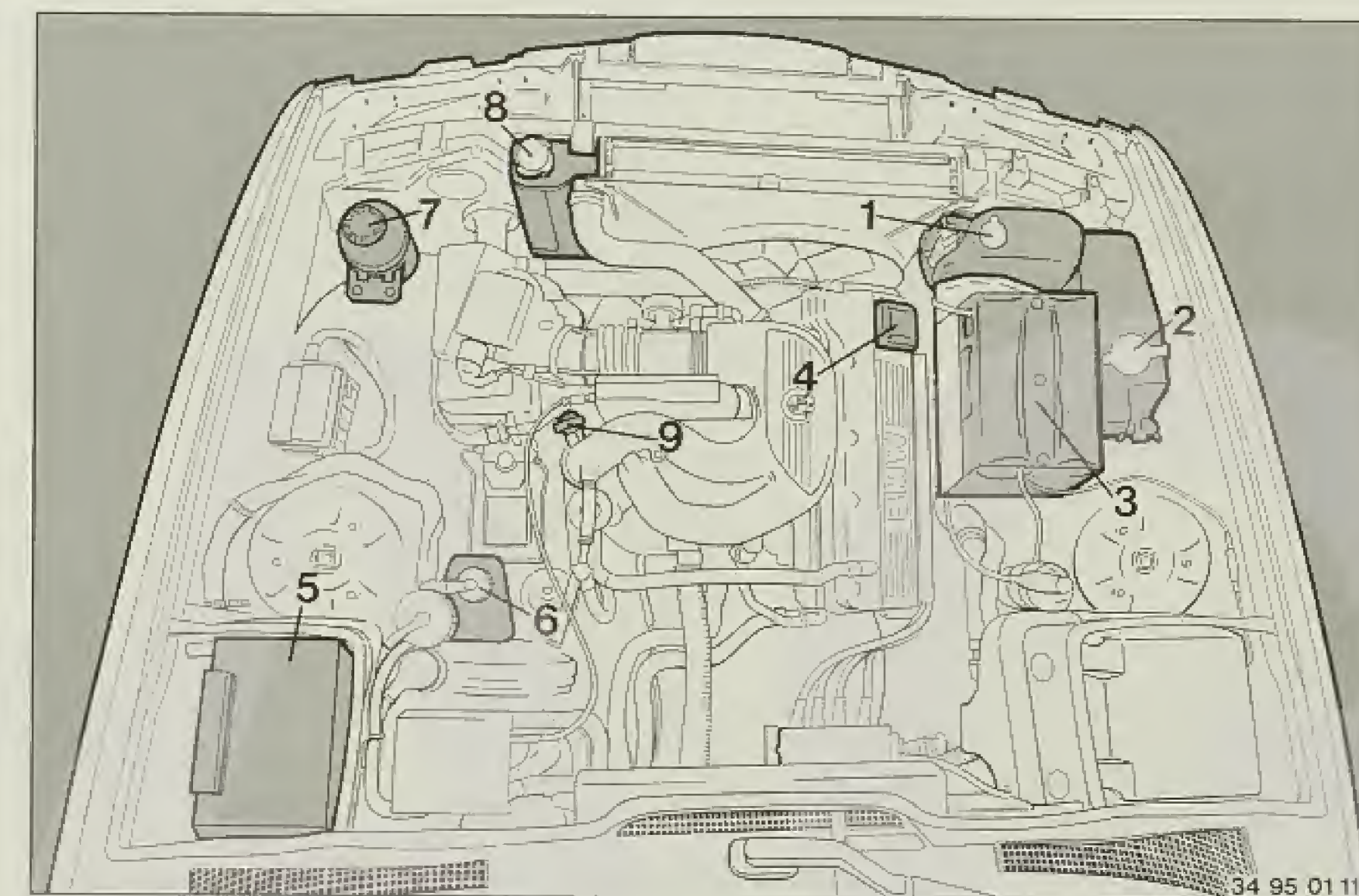
In the engine compartment, next to the right windscreen wiper pivot (arrow), or possibly on the top left of the fascia.

Maker's plate

In the engine compartment, ahead of the right wheel arch.

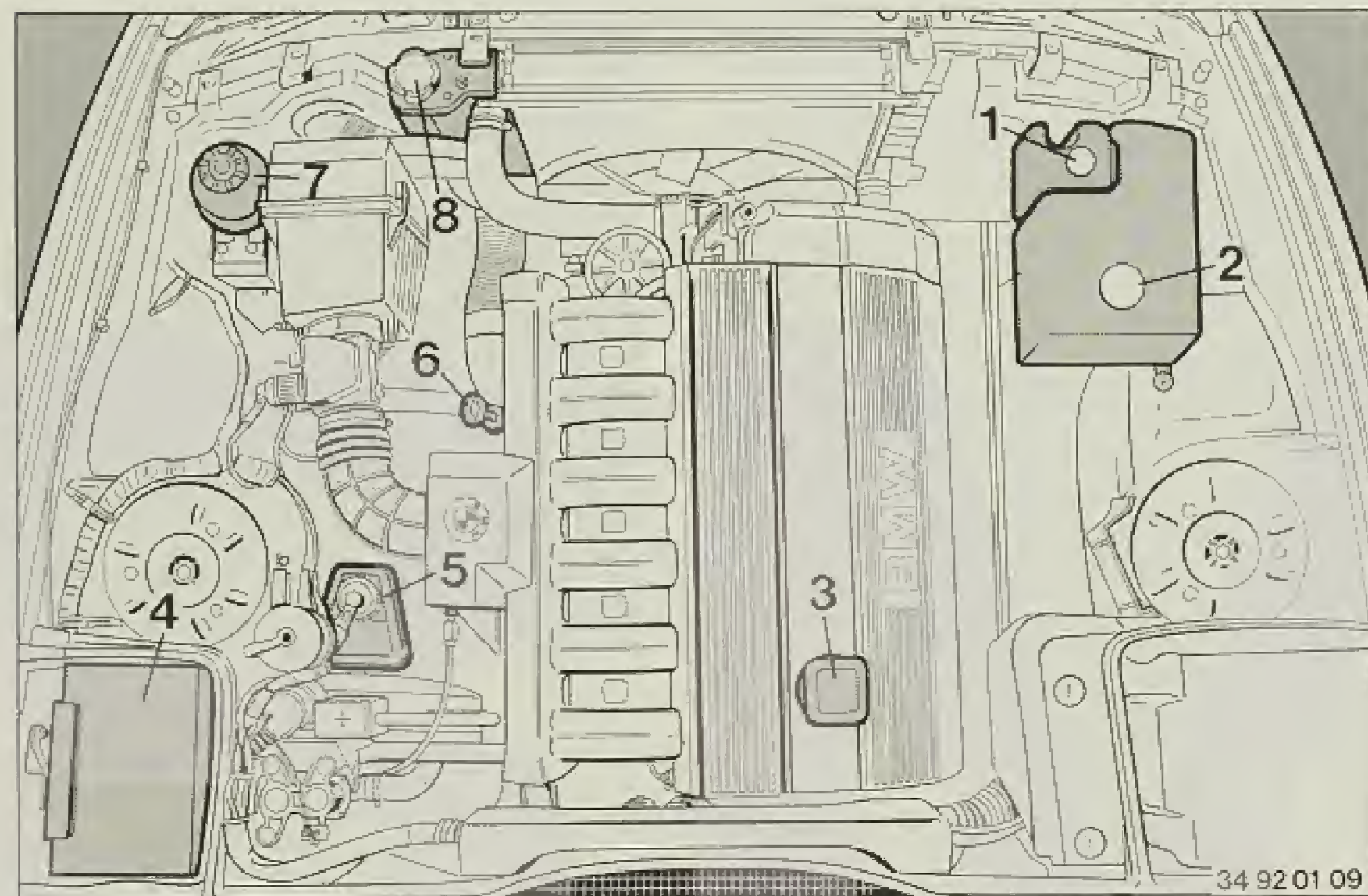
The information on the maker's plate and the vehicle identification number must correspond with the data stated in the car's documents.

These data are used as a basis for all queries, checks and warranty and parts requirements.



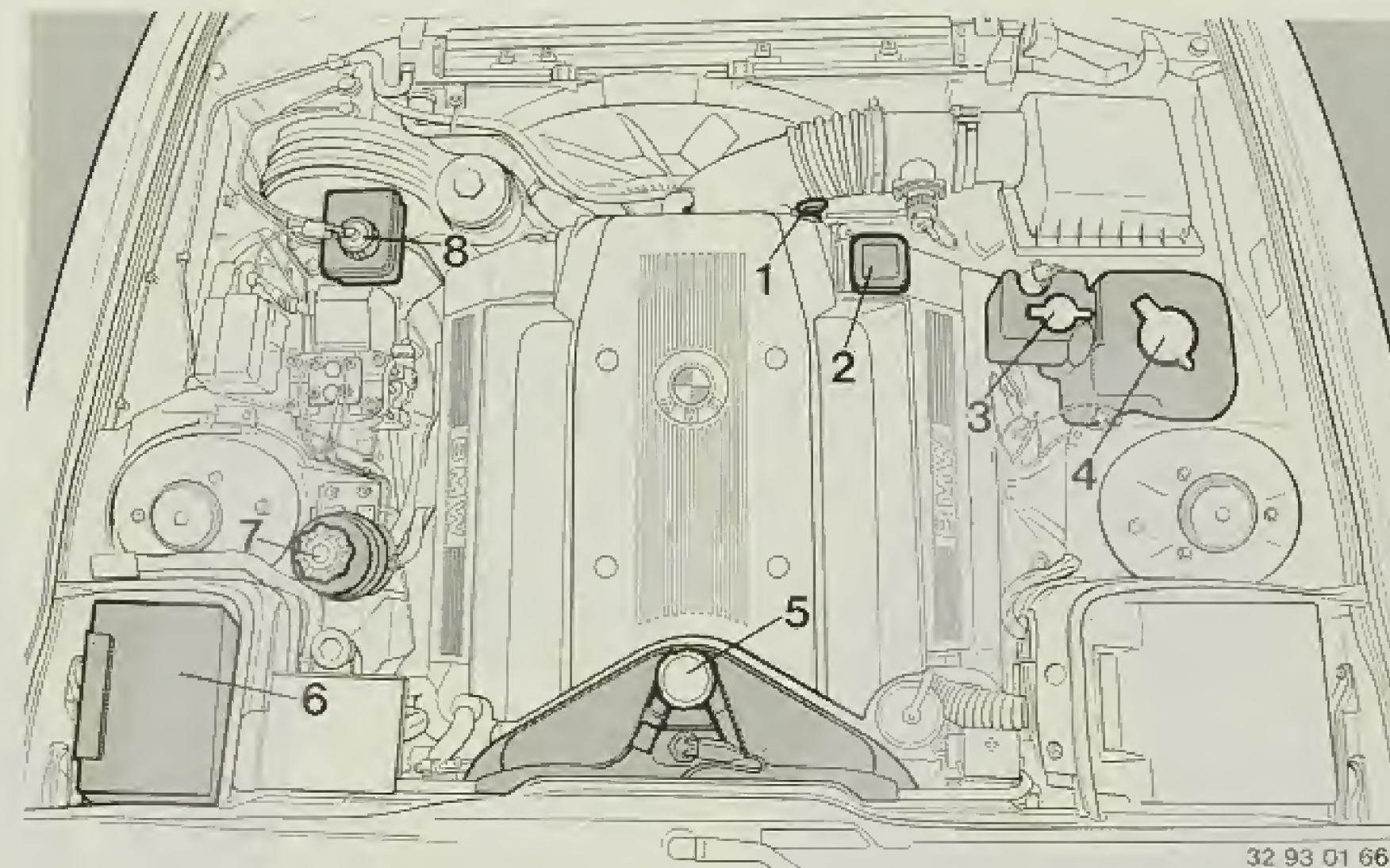
Principal items in the engine compartment - BMW 518i

- | | |
|---|--------------------------------------|
| 1 - Intensive cleaning fluid reservoir | 6 - Brake fluid reservoir |
| 2 - Windscreen, headlight and fog light washer fluid tank | 7 - Oil reservoir for power steering |
| 3 - Battery | 8 - Coolant equalising tank |
| 4 - Engine oil filler | 9 - Engine oil dipstick |
| 5 - Fuse box | |



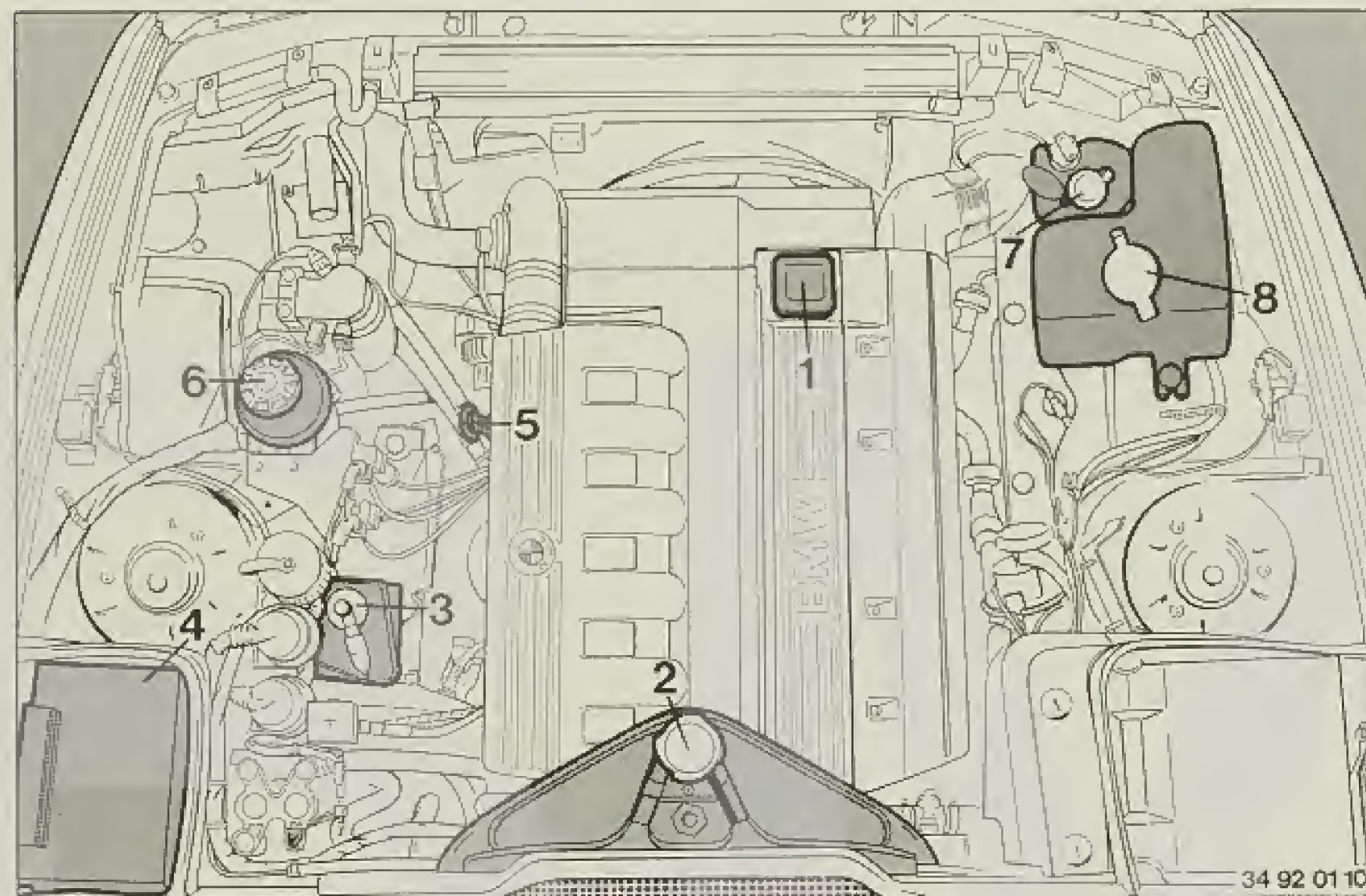
Principal items in the engine compartment – BMW 520i, 525i/iX

- | | |
|---|---|
| 1 – Intensive cleaning fluid reservoir | 5 – Brake fluid reservoir |
| 2 – Windscreen, headlight and fog light washer fluid tank | 6 – Engine oil dipstick |
| 3 – Engine oil filler | 7 – Oil reservoir for power steering and self-levelling suspension hydraulics |
| 4 – Fuse box | 8 – Coolant equalising tank |



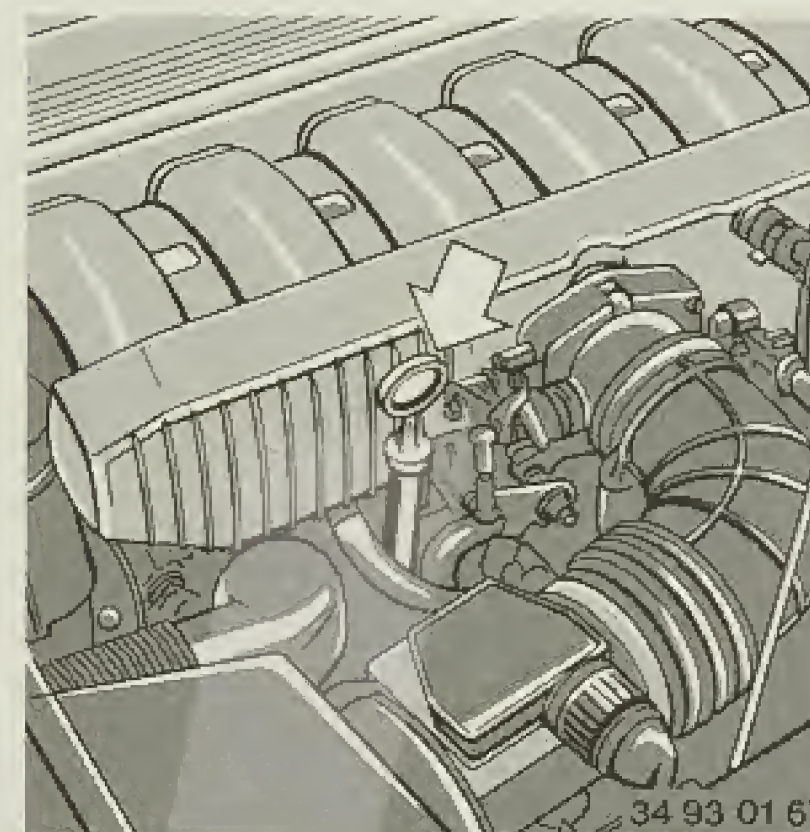
Principal items in the engine compartment – BMW 530i, 540i

- | | |
|---|---|
| 1 – Engine oil dipstick | 6 – Fuse box |
| 2 – Engine oil filler | 7 – Oil reservoir for power steering and self-levelling suspension hydraulics |
| 3 – Intensive cleaning fluid reservoir | 8 – Brake fluid reservoir |
| 4 – Windscreen, headlight and fog light washer fluid tank | |
| 5 – Coolant equalising tank | |



Principal items in the engine compartment – BMW 525td/tds

- | | |
|-----------------------------|---|
| 1 – Engine oil filler | 6 – Oil reservoir for power steering and self-levelling suspension hydraulics |
| 2 – Coolant equalising tank | 7 – Intensive cleaning fluid reservoir |
| 3 – Brake fluid reservoir | 8 – Windscreen, headlight and fog light washer fluid tank |
| 4 – Fuse box | |
| 5 – Engine oil dipstick | |



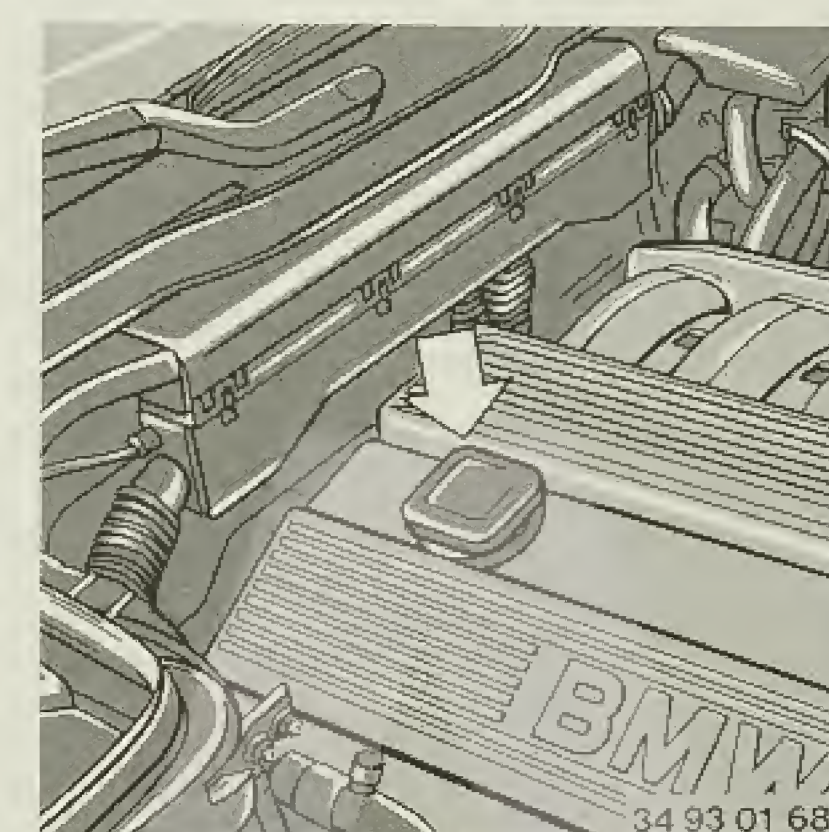
Checking engine oil level

Like fuel consumption, engine oil consumption depends on the way in which the car is driven and on operating conditions. For this reason, the oil level should be checked regularly, e. g. every 1000 km (600 miles), or sooner if the engine has been driven hard. When checking, the car should be standing on a level surface.

For maximum accuracy: Check the oil level before starting the engine, while it is cold. If the engine is warm, allow time for the oil to drain back into the sump (for instance, as long as it takes you to fill the fuel tank).

Insert the dipstick fully.

The oil level must be between the two marks on the dipstick.



Adding engine oil

If necessary, add engine oil at the filler on the cylinder head cover. Do not fill above the maximum mark on the dipstick.

The quantity of oil represented by the space between the two marks on the dipstick is app. 1 litre (1.8 pints). Adding too much oil serves no useful purpose and harms the engine. Since excess oil is burned off rapidly, the engine would appear to be consuming excessive oil.

Do not add oil until the level has reached the lower mark on the dipstick. However, never allow the oil level to fall below this mark.

BMW engines are designed to operate without oil additives, provided that a highly-developed brand-name lubricating oil is used. Indeed, additives may actually lead to engine damage. The same applies to the manual gearbox, automatic transmission, final drive and power steering.

Engine oil specifications

The grades of engine oil to be used are exclusively governed by the CCMC or API specification.

Here are the required quality stages:

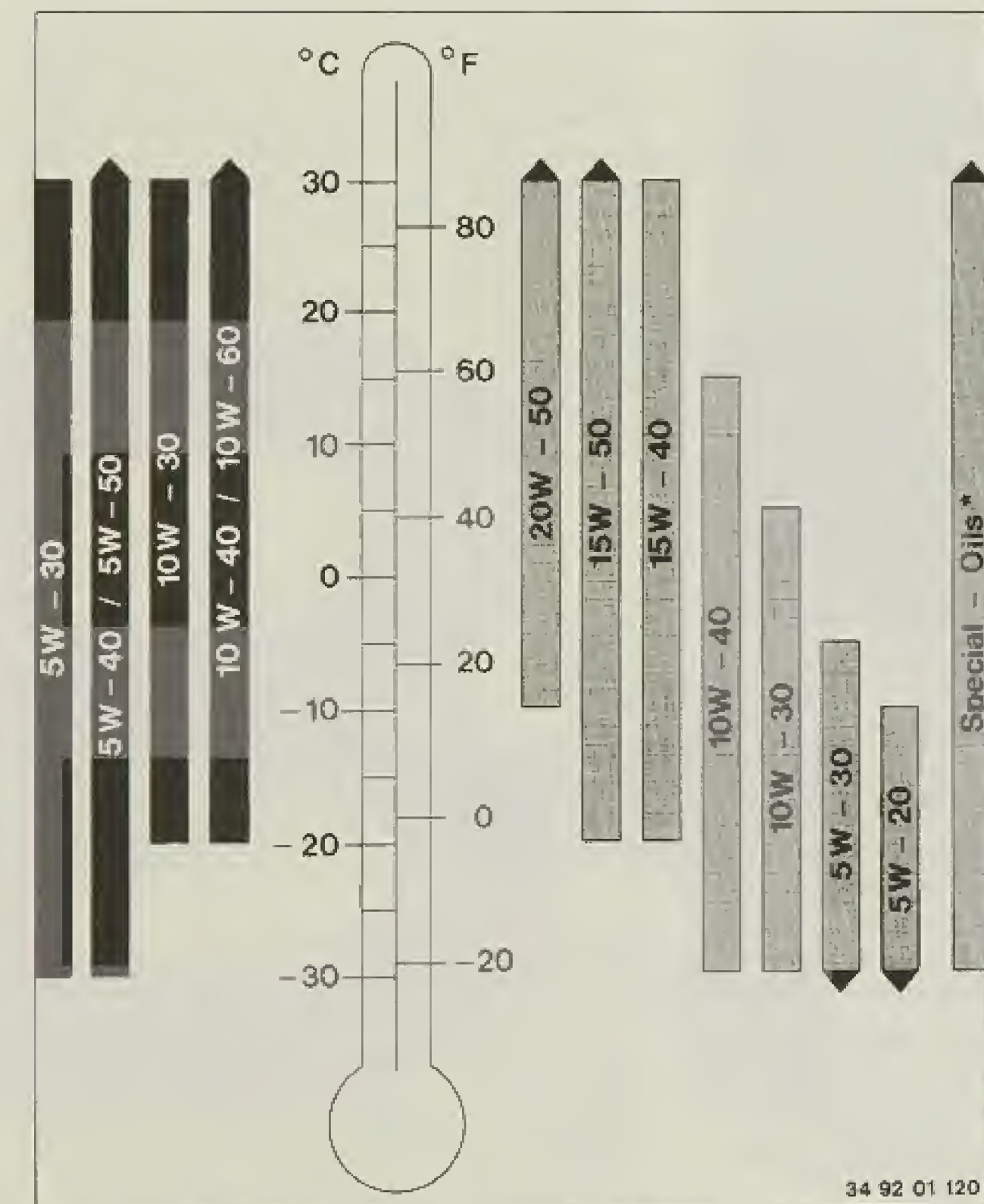
	Preferred	Also permitted:
Spark-ignition engines	CCMC-G4 CCMC-G5 ¹⁾	API SG API SH
	CCMC-G4/PD2 CCMC-G5/PD2 ¹⁾	API SG/CD API SG/CE API SH/CD API SH/CE
Diesel-engines	CCMC-G5/PD2 ²⁾	–

¹⁾ If engine oils to CCMC-G5 or CCMC-G5/PD2 specification are to be used in spark-ignition engines, BMW Service should be consulted regarding its suitability for use all the year round.

²⁾ The oil must comply with **both** specifications (G5 and PD2).

When disposing of old engine oil, comply with local environmental protection regulations.

A recommendation: always have oil changes carried out by a BMW service station.



* Engines oils approved by BMW to CCMC-G5 or CCMC-G5/PD2 specification

... Diesel engines

... Spark-ignition engines

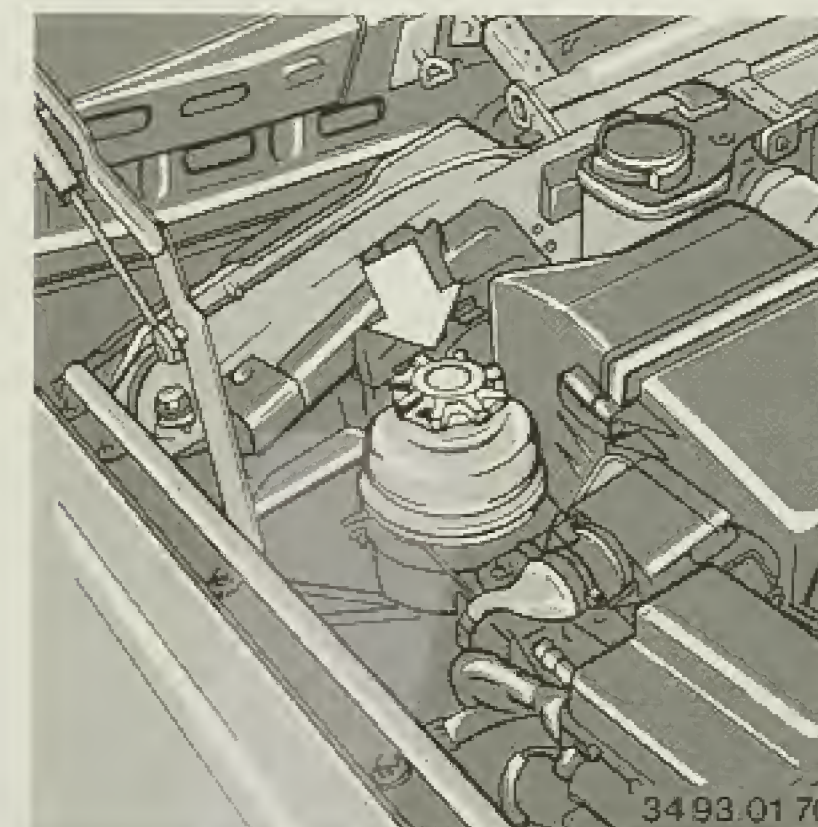
The correct SAE viscosity grade to be used depends on outside temperatures, and therefore on the time of year.

This chart indicates the correct SAE grade of engine oil for various prevailing air temperatures.

Note that the temperature limits quoted may be departed from, but only for brief periods.

Caution:

Continuous contact with used engine oil has caused cancer in laboratory tests. Wash skin thoroughly with soap and water after handling. Always keep oils, greases etc. out of reach of children! Please note precautions on containers.



Steering hydraulics: checking oil level

With the engine at a standstill, unscrew the reservoir cover and fit again.

The oil level must be between the two marks on the dipstick.

Top up oil if necessary. BMW service stations know the approved grades.

Allow the engine to run for a while. Top up the oil if necessary until the level is between the two marks.

Switch off the engine. The oil level may rise app. 5 mm (0.2 in) above the upper mark.

Screw the reservoir cap on tight.

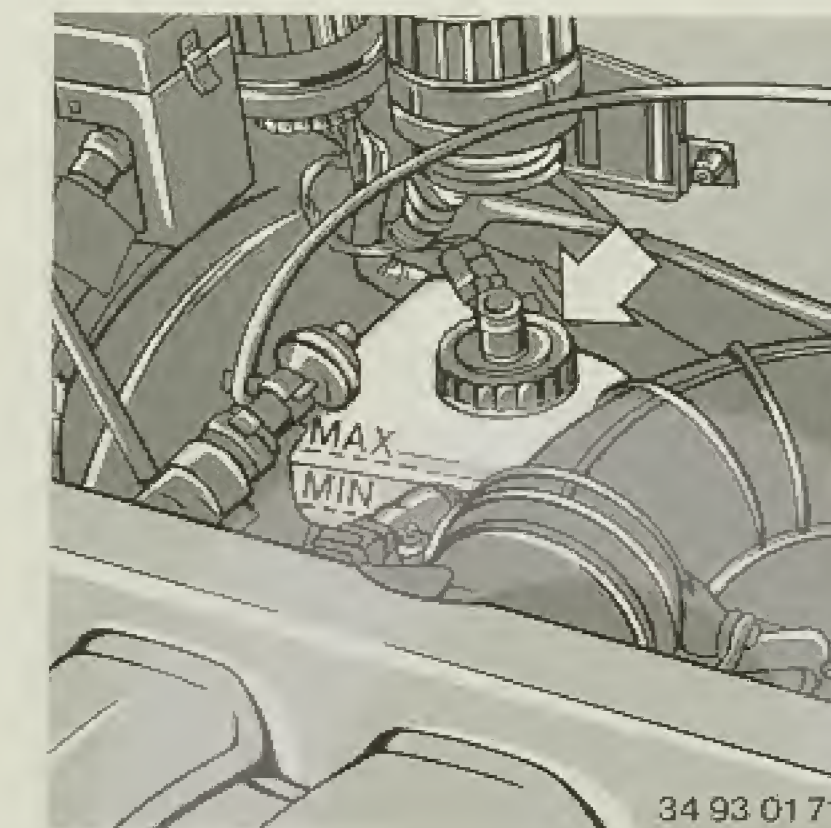
Power steering and self-levelling suspension*: checking oil level

With the engine at a standstill, unscrew the knurled nut and take off the reservoir cover.

The oil level must rise slightly above the base of the strainer (app. 5 mm or 0.2 in) with the car unladen.

Add fresh oil if necessary. Always use Pentosin CHF 11S or, if not available, LHM. If the vehicle is carrying a load, add 0.25 l Pentosin CHF 11S but stop adding if the oil level reaches the base of the strainer. Check the oil level again with the car unladen.

Fit the reservoir cap and tighten the knurled nut. Ensure that the cap is properly fitted.



Warning: brake fluid is hygroscopic. That is to say, it gradually absorbs moisture from the atmosphere. To ensure that the brakes on your car remain fully operational, have the brake fluid changed every two years by a BMW service station. See also the note on Pages 91 and 105.

Brake fluid is toxic (poisonous) and also attacks the car's paintwork. It must therefore always be kept tightly sealed in the original pack, and stored out of children's reach. Comply with environmental protection laws when disposing of brake fluid or packs which have contained it.

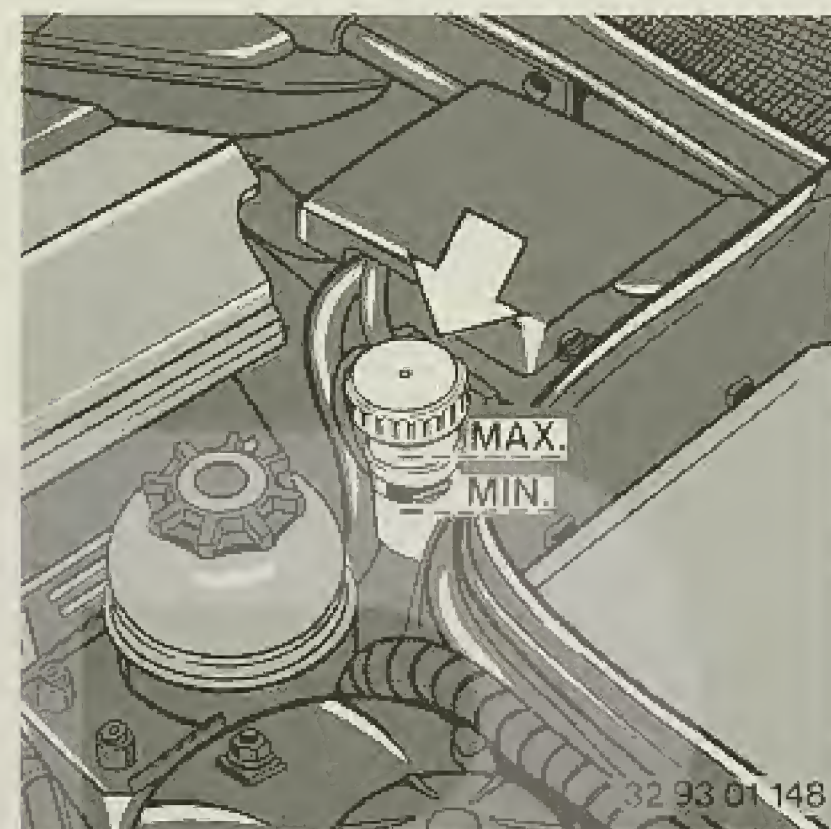
Warning:

Do not spill brake fluid. Add it only up to the MAX mark on the reservoir. If brake fluid comes into contact with hot parts of the engine, it can ignite and cause serious burns.

Brake fluid reservoir

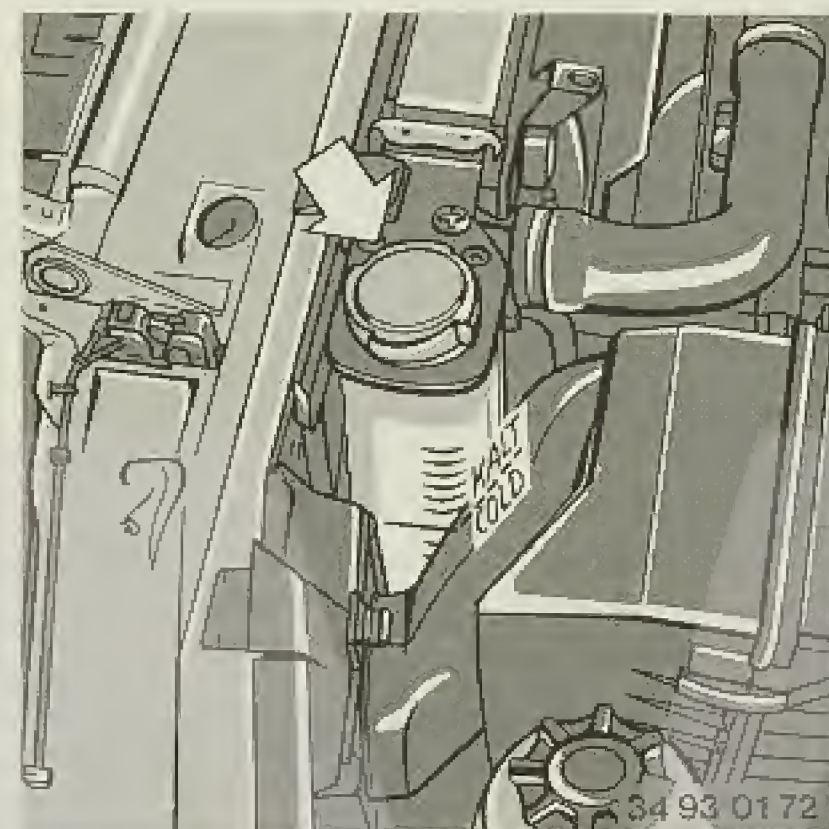
The oil level must be up to the top (MAX) mark. The level can be checked without removing the cap.

BMW service stations know the approved grades of brake fluid (DOT 4).



Reservoir for hydraulic clutch fluid

BMW 530i/540i only.
Add brake fluid as far as the upper mark.



Checking coolant level

The level must be up to the COLD or MAX mark (arrow) on the transparent equalising tank when the engine is cold.
Illustrated: BMW 520i, 525i/iX. Other models: see "Principal items in the engine compartment".

Take off the cap only when the engine is cold (with the needle on the coolant gauge in the bottom one-third of the scale), **otherwise there is a risk of scalding.**

Turn the cap counter-clockwise slightly to allow excess pressure to escape before opening.

Overfilling causes coolant to escape via the overflow pipe.

Warning: never add water to the radiator while the engine is still hot.

The cooling system is designed for filling with a long-life antifreeze and corrosion inhibitor. No other additives should be used.

To avoid possible subsequent damage, use only a factory-approved nitrite- and amino-free long-life antifreeze and corrosion inhibitor. BMW service stations are familiar with the approved grades.

Warning:

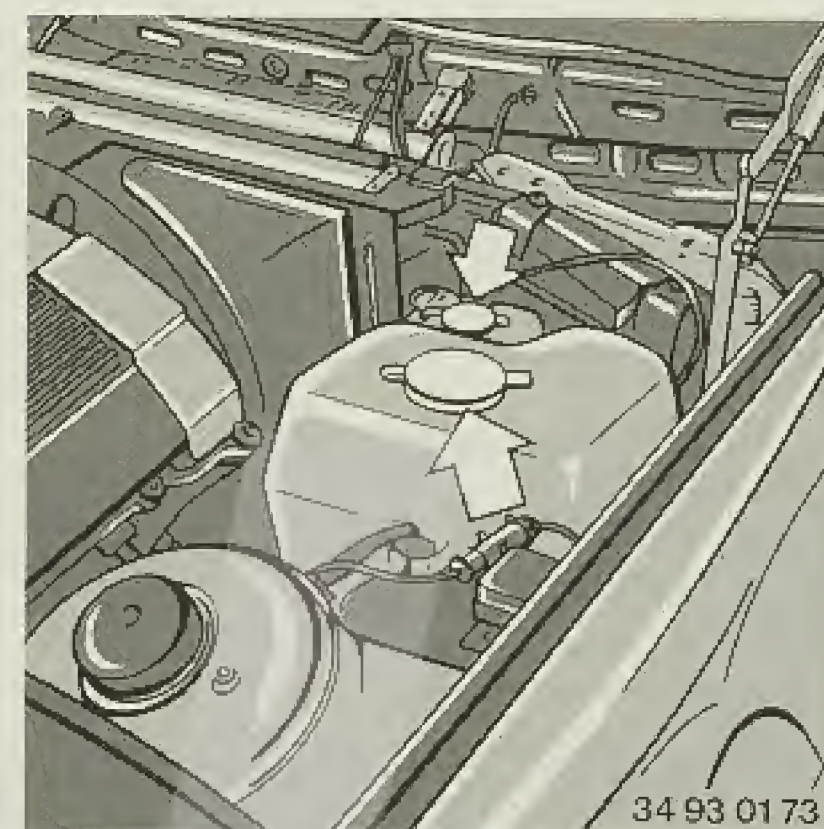
Antifreeze is toxic (poisonous). Always keep it in the original pack or container, and out of reach of children.

Coolant **concentration:** see winter operation, Page 106.

Renew the coolant every two years.

Warning:

Long-life antifreeze and corrosion inhibitor contains flammable ethylene glycol, and must therefore not be spilled on hot parts of the engine, or else it could catch fire and cause severe burns.



Windscreen, headlight *, fog light * and intensive cleaning system * reservoirs

Illustrated: BMW 520i, 525i/iX. Other models: see "Principal items in the engine compartment".

Capacity

Windscreen washer system:
app. 2.5 l (4.5 pints) – BMW 518i, 520i, 530i, 540i
app. 3.2 l (5.8 pints) – BMW 525i/iX, 525td/tds

In conjunction with headlight and fog light cleaning system:

app. 8.5 l (15.0 pints) – BMW 518i, 520i, 525i/iX
app. 8.0 l (14.1 pints) – BMW 525td/tds
app. 7.5 l (13.2 pints) – BMW 530i, 540i.

Top up with water and, when necessary and in particular at low outside temperatures, antifreeze in accordance with the manufacturer's instructions.

Intensive cleaning system: capacity app. 1 litre (1.8 pints).

Top up with intensive cleaning fluid (frost protection down to -27°C ; available from BMW service stations).

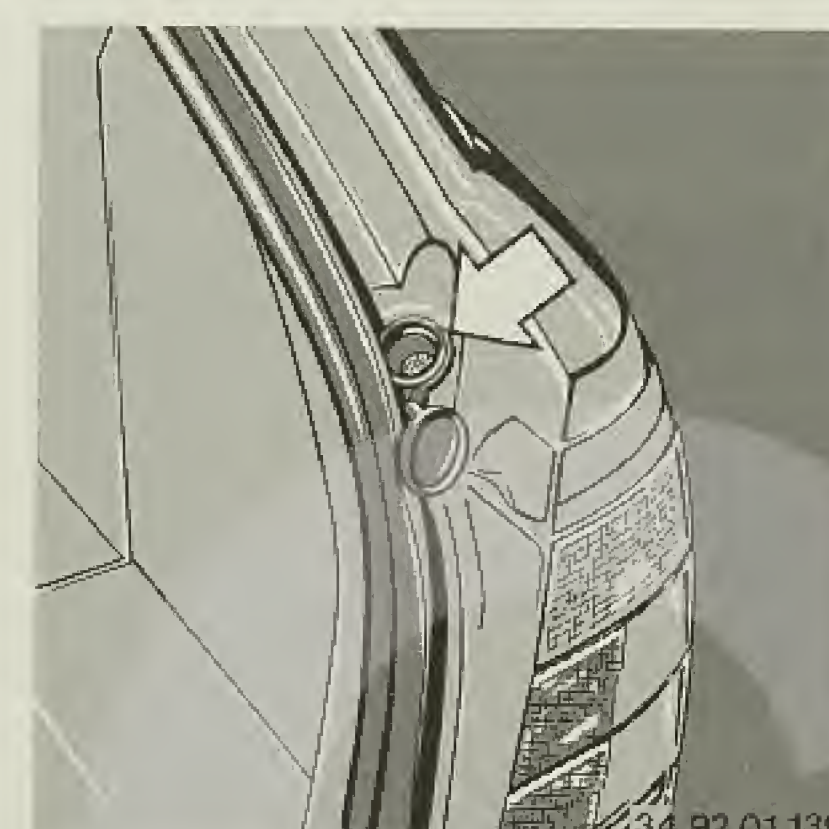
Windscreen washer jets

The jets of fluid should strike the windscreen at a suitable point to ensure effective cleaning even at high road speeds.

If necessary, adjust by inserting a needle and moving the jets.

Headlight, fog light and rear-window cleaning system jets

Your BMW service station will reposition these jets on request.



BMW touring

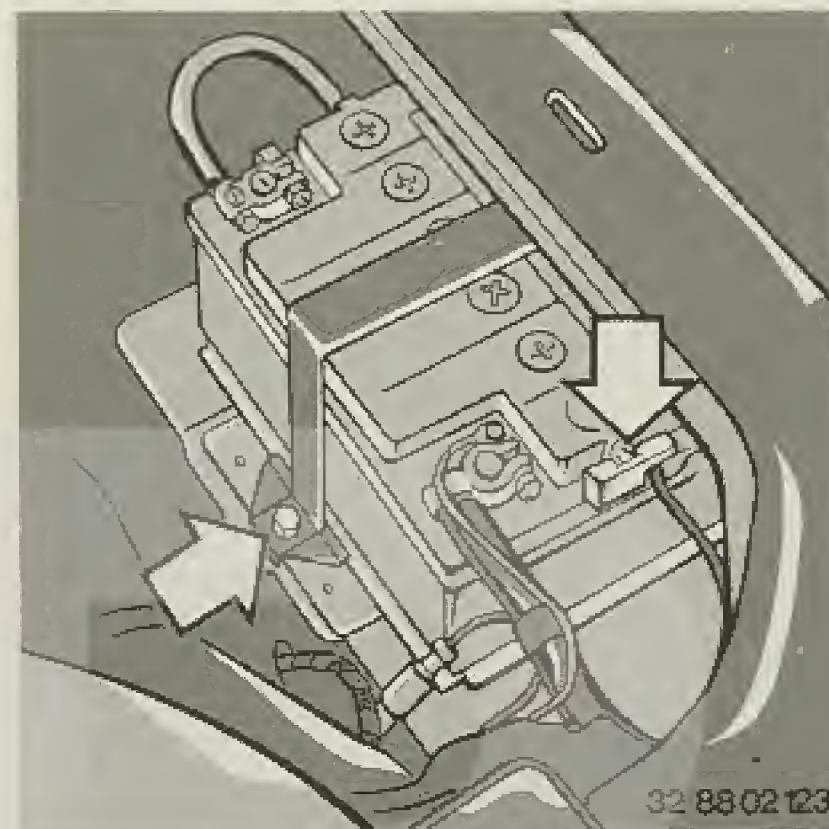
Reservoir for rear-window cleaning system

Capacity: app. 2.5 l (4.5 pints)

Top up with water and, when necessary and in particular at low outside temperatures, antifreeze in accordance with the manufacturer's instructions.

Warning:

Only add cleaning agents and antifreeze when mixed with water and not in their concentrated form, to prevent damage to the rear lights.



Battery

The battery needs no maintenance and complies with DIN 43539 standard, Part 2. The electrolyte added initially should normally last for the life of the battery, which is located beneath the rear seat.

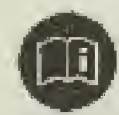
BMW 518i: the battery is located in the engine compartment.

If the acid level falls too low, for instance after a long stay in a hot climate, top up with distilled water (not acid).

The acid level should be level with the marks visible in the cell opening, app. 5 mm (0.2 in) above the tops of the plates.

Keep the upper part of the battery dry and clean.

Starting with a flat battery: see page 93.



Please read the following notes before performing any work on the battery:



Always wear eye protection. Particles containing acid or lead must never be allowed to come into contact with the eyes, skin or clothing.



Battery acid is caustic. Always wear protective gloves and goggles. Do not tilt the battery, otherwise acid could leak out through the gas vents.



Keep the acid and battery out of the reach of children.



Never bring a naked flame near the battery or cause sparks in its vicinity. Do not smoke when handling the battery. Avoid creating sparks when handling leads and electrical equipment. Avoid short-circuits. Never short-circuit the battery terminals, as the resulting arc could cause severe injury.



A highly explosive detonating gas is generated when the battery is charged.



If acid comes into contact with the eyes, rinse immediately with clean water for several minutes and consult a physician without delay. Neutralise acid spillage on the skin or clothes immediately with soap and rinse off with plenty of water. If acid has been swallowed, consult a physician immediately.



In order to protect the housing against ultraviolet radiation, do not expose batteries to direct daylight. As batteries which have run flat could freeze, store in a place where there is no risk of frost damage.

Never detach the battery leads when the engine is running, or else an overvoltage will occur and damage the car's electronic equipment beyond repair.

Disconnect the negative terminal first, then the positive terminal. Release the battery screw connection. When installing again, connect the positive terminal first, followed by the negative terminal.

Only recharge the battery when the engine is at a standstill if still fitted to the car. On cars with the battery located beneath the rear seat, the easiest way to recharge the battery is via the terminal in the engine compartment (positive terminal) and earth (see point 4 of the section "Starting with a flat battery").

Before attempting any work on the car's electrical system, always disconnect the negative lead from the battery to avoid the risk of short-circuits.

To do this, an earth (ground) connection on the right of the seat base can be disconnected; access to the battery itself is then not necessary:

- Pull off cover
- Release screw and remove holder
- Remove nut and take off earth lead.

If a second battery * is installed in the luggage compartment, this battery must also be disconnected.

If the car is not used for more than four weeks, the battery's negative terminal should be disconnected from the on-board power supply.

If the car is not used for more than six weeks, remove the battery, recharge it and store it in a cool place where there is no risk of frost damage. Recharge the battery after 3 months at the latest, as it will otherwise be rendered useless. Every time the battery runs flat, particularly if left in this state for any length of time, its operating life is reduced.

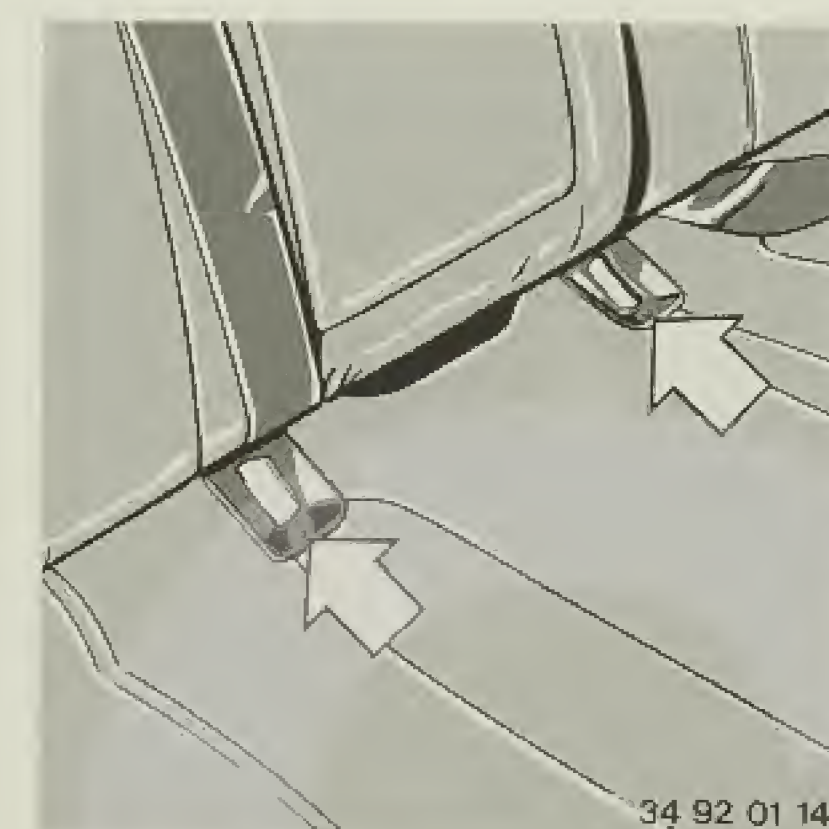


Hand in spent batteries at a collection point for used batteries or at your BMW service station. Batteries filled with acid should be transported and stored upright. Protect batteries against falling over when in transit.

Note:

When indicating the next change of brake fluid, the service indicator does not take into account periods during which the battery has been disconnected.

Any such times must be taken into account to ensure that the brake fluid is changed according to schedule every two years, i.e. it will be necessary to change the brake fluid before the clock symbol lights up.

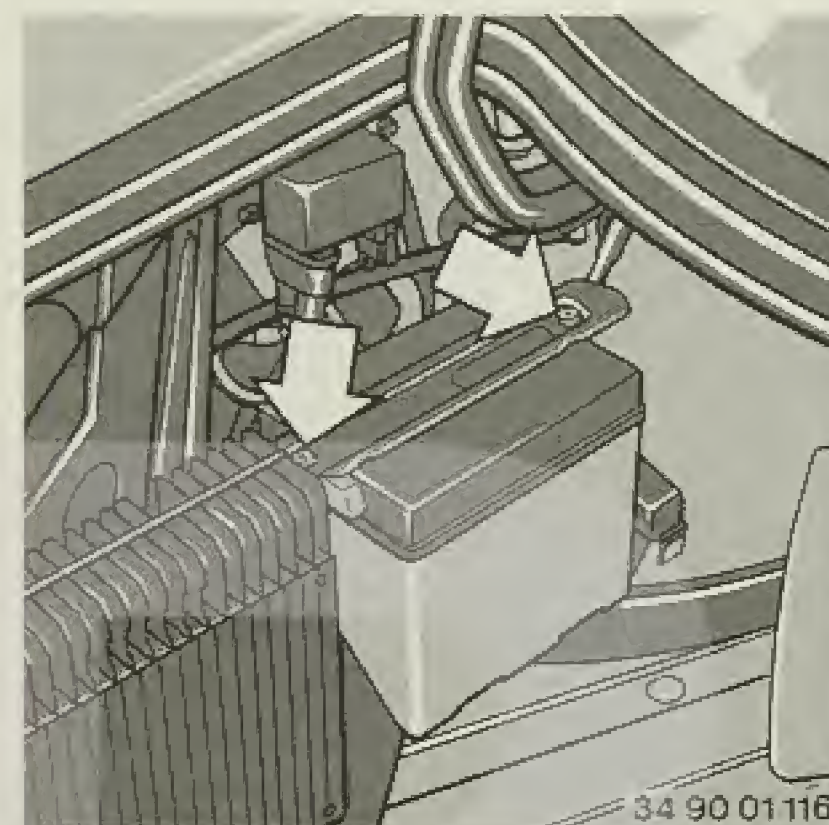


Access to the battery beneath the rear seat

Lift up rear seat.

BMW touring

- Lever off stoppers on both belt catch trims (arrow) with a screwdriver.
- Introduce a drift or thin screwdriver app. 35 mm into the aperture and press: the cover is now released.
- Pull the covers forward and up to remove.
- Lift up seat to the front and remove.
- When installing, press on the belt catch trims until they engage and insert the stoppers.



Second batter * in luggage compartment

The care and maintenance instructions on the previous page also apply to this battery.

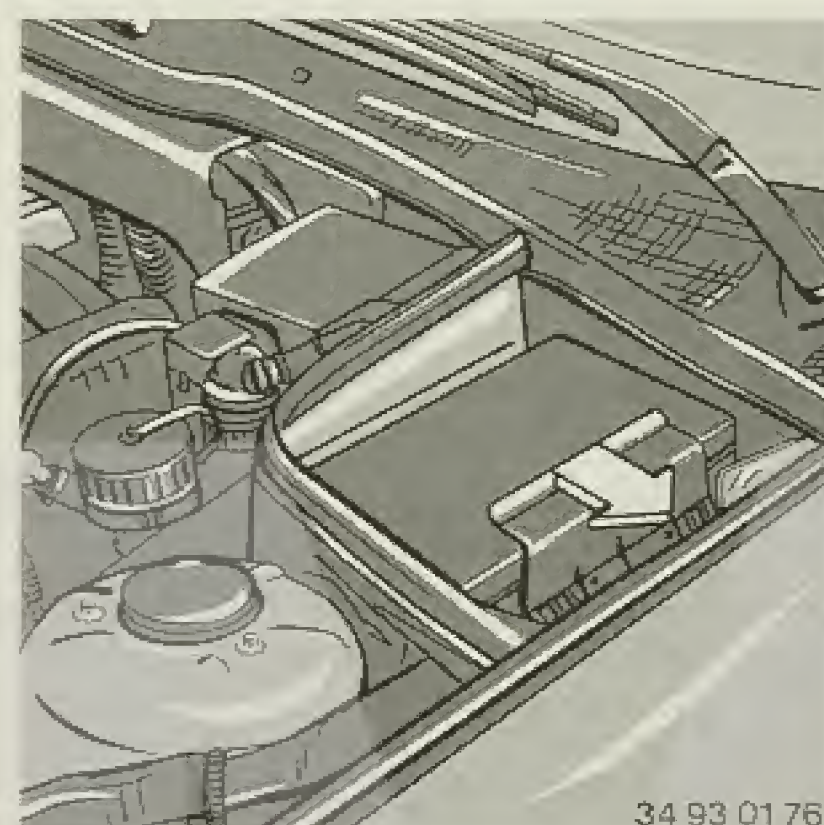
Warning:

- If this battery has to be recharged, connect the charger directly to its terminals only
- Never use this battery as a starting aid if another battery is flat.

The battery can be reached by removing the cover trim.

BMW touring:

The second battery is located behind the flap in the left-hand side trim of the load area.



Fuses

If an item of electrical equipment should fail, switch it off and check the fuse.

The **fuse box** (power distribution box), with spare fuses, relays and plastic tweezers is located in the engine compartment on the left.

Take off the fuse box cover by pressing the hoop to one side.

Pull the blown fuse out of its socket with the plastic tweezers. If the metal wire inside the fuse has melted, the fuse must be renewed, using a fuse of the same rating.

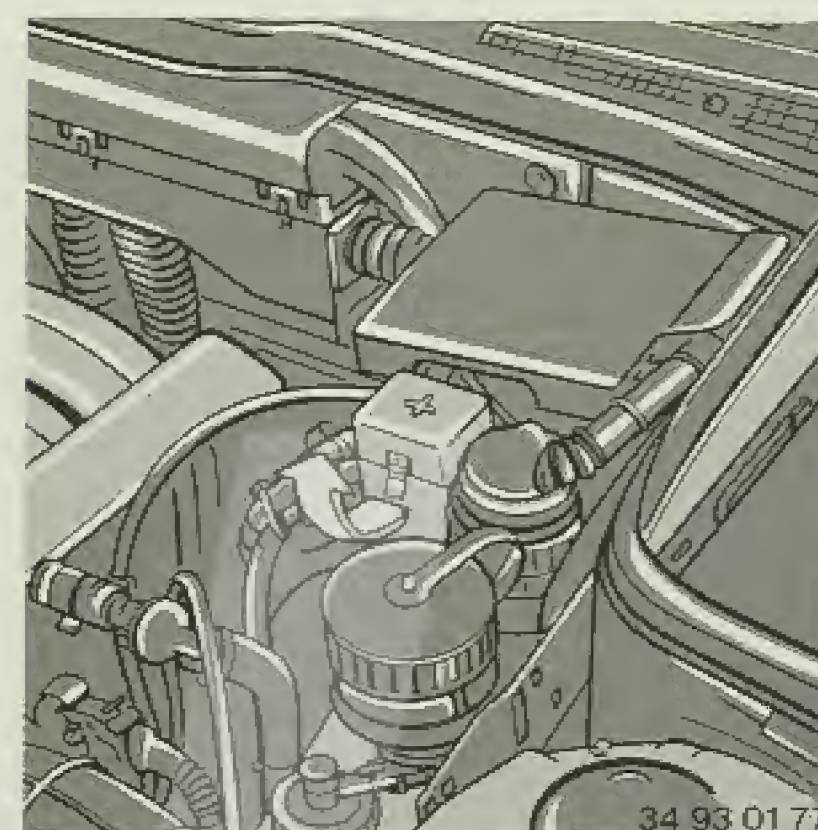
Never attempt to repair blown fuses.

To close the fuse box, push the cover down and press the hoop on at the side. If a fuse blows repeatedly, have the fault repaired by a BMW service station.

Further fuses are located under the rear seat on the left. On models with Check Control and a trailer tow hitch, the trailer lights are also protected by fuses in the trailer module in the luggage compartment, behind the left-hand side trim. The fuse for the permanent positive line is located on the right beneath the rear seat in a separate fuse box next to the battery.

BMW 525iX: the four-wheel-drive system is protected by two fuses in separate locations in front of the fuse box. When the braking and engine performance are being tested on a dynamometer, the 5 A fuse must be removed so that the system is inactivated without a fault being registered in the memory.

A list of fuses together with their rating and equipment supplied is on the fuse box cover.



Starting with a flat battery

Do not use any cold-start sprays to help start the engine.

If the battery is run down, the engine can still be started by connecting jump leads * from a second vehicle.

1. Check that the second car has a 12 V electrical system and a battery of approximately the same capacity in Amp/h (this will be marked on the battery).
2. Leave the flat battery connected to the car's electrical system.
3. Do not allow the bodywork of the two cars to touch, or a short-circuit may be caused.

4. Connect the positive terminals of the two batteries with jump leads. If the BMW's battery is not in the engine compartment, a special connection is provided for this purpose (cap marked "+"; pull flap and remove – see illustration; BMW 530i and 540i: pull both side flaps). Then connect the batteries' negative terminals. To do this, first connect one of the jumper leads to the negative terminal of the second battery or to part of the engine or body of the second vehicle, then connect it to the earth (ground) of the engine or body of the car that needs to be started (nuts on the spring strut dome).

Caution:

Observe the correct order when jump-starting other vehicles, to avoid generating sparks at the battery.

5. If the battery of the second car is also weak, run its engine to boost the charge. Start your own car's engine in the usual way and keep it running. After the engine has started and **before disconnecting the jump leads**, switch on the lights, rear window heater and maximum heater blower speed to avoid an overvoltage between the governor and consumer equipment. Disconnect the jump leads in the opposite order to that described above. Depending on the cause of the fault, have the battery recharged.

Warning:

The car is equipped with a high-performance ignition system and any contact with live components while the engine is running could cause a **fatal electric shock**.

Please keep to the procedure described here, otherwise personal injury or damage to both vehicles could occur.



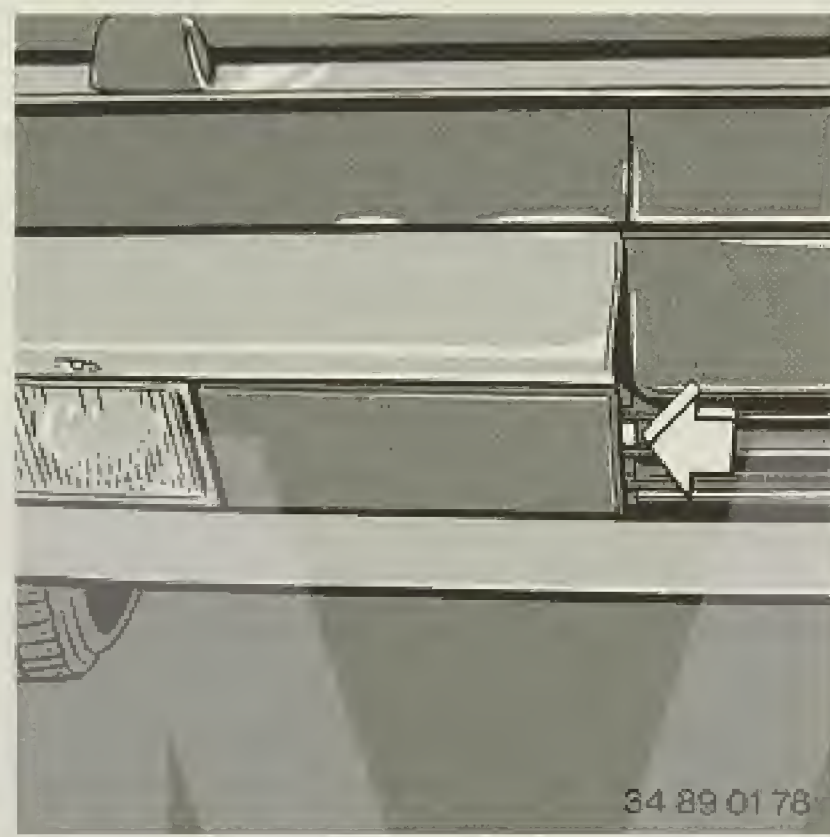
First aid box *

This item is stored in a holder under the front passenger's seat.

To take it out, raise the locking catch behind the recessed handle and pull the first aid box forward.

When returning the box to its holder, press it down slightly to ensure that the locking catch engages.

Comply with legal requirements with regard to carrying a first aid kit.



Towing eyes

Front towing eye on right: remove the cover after pressing in the locking catch (arrow).

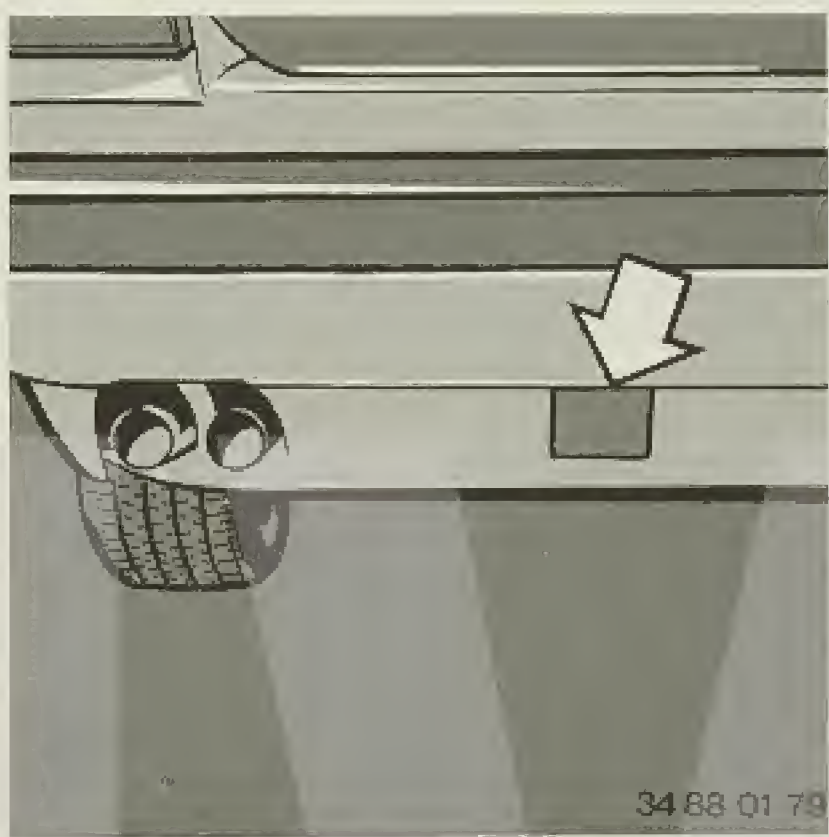
Rear towing eye: press the cover panel out, using a screwdriver inserted at the arrows.

Use nylon towropes or straps which are resilient enough to protect both vehicles against sudden jerking. Alternatively, a towbar may be used.

When using a towbar, both cars' towing eyes should be on the same side.

If the towbar runs at an angle, note the following:

- The amount of free movement between the cars is limited on bends



- The angle of the towbar gives rise to lateral forces (particularly dangerous on slippery road surfaces)
- Do not attempt to steer the car being towed along the same line as the towing vehicle
- There is a danger of the towed car jack-knifing when the towing vehicle is braked.

Important: the vehicle being towed should not be heavier than the towing vehicle.

Tow-starting

Switch on the hazard warning flashers if required by law (note national regulations). Switch on the ignition, engage 3rd gear and keep the clutch depressed. When the car has reached a fair speed, engage the clutch; de-clutch again when the engine starts. Switch off the hazard warning flashers. The cause of poor starting should be investigated and put right by a BMW service station.

Cars with automatic transmission

Cars with automatic transmission must not be tow-started.

To start the car if the battery is flat, use jump leads as described two pages back.

Towing away

If the vehicle has to be towed away, turn the ignition key to position 1 so that the brake lights, turn indicators, horn and wipers are operational.

Switch on the hazard warning flashers if required by law (comply with national regulations).

If the electrical system is out of action, the towed car must be identified as such (for instance by placing a notice or the warning triangle in the rear window).

Cars with automatic transmission

Selector lever at N.

BMW 518i, 525td

Max. towing speed 50 km/h (31 mile/h)

Max. towing distance 50 km (31 miles)

BMW 520i, 525i/X, 530i, 540i, 525tds

Max. towing speed 70 km/h (43 mile/h)

Max. towing distance 150 km (93 miles)

BMW 525iX

When towing with one axle off the ground, the following points must be observed to protect the transfer box:

- Gear lever or automatic transmission selector lever should be in neutral
- The engine must not be switched on
- Maximum towing speed: 50 km/h
- Maximum towing distance: 150 km/h.

If the car is towed for any greater distance, the rear propshaft must be dismantled if the front wheels are raised, or the front propshaft dismantled if the rear wheels are raised.

Warning:

When the engine is not running, the power assistance for the brakes and steering does not operate. Increased effort is then required to operate these systems.

Toolkit

The toolkit is located on the underside of the luggage compartment lid (BMW touring: under tailgate lid). Access is by unscrewing the wing nut(s).

Warning triangle *

This item is stored ready to hand in the toolkit.

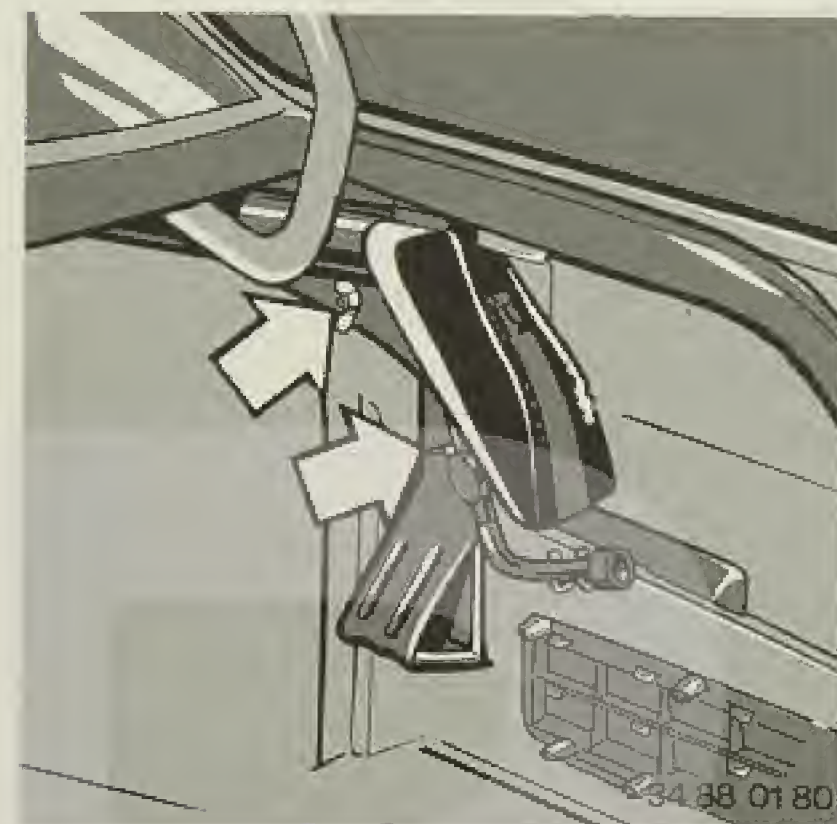
Comply with legal requirements with regard to carrying a warning triangle.

Fire extinguisher *

Holder on the driver's seat.

To ensure full operational reliability, have the fire extinguisher examined by the manufacturer's authorised service station every 2 years.

If these service stations are not listed on the extinguisher or any documentation available to you, please consult a local trade directory or the "yellow pages" of the telephone service to obtain the address.



Wheel changing

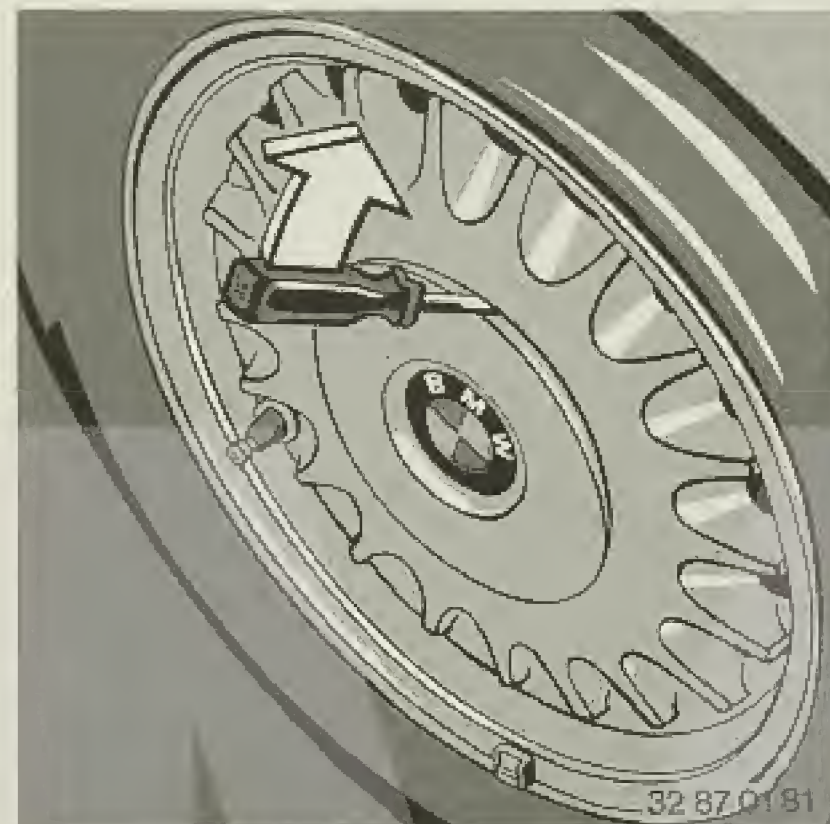
Apply the handbrake and select 1st or reverse gear. On automatic transmission cars, select P.

If a tyre punctures, protect the car by switching on the hazard warning flashers and positioning a warning triangle or flashing lamp at an appropriate distance behind the car. Note legal requirements in this respect.

Spare wheel

Located under the luggage compartment floor mat. Unscrew the wing nut by hand.

BMW touring:
Under the rear flap in load area floor.



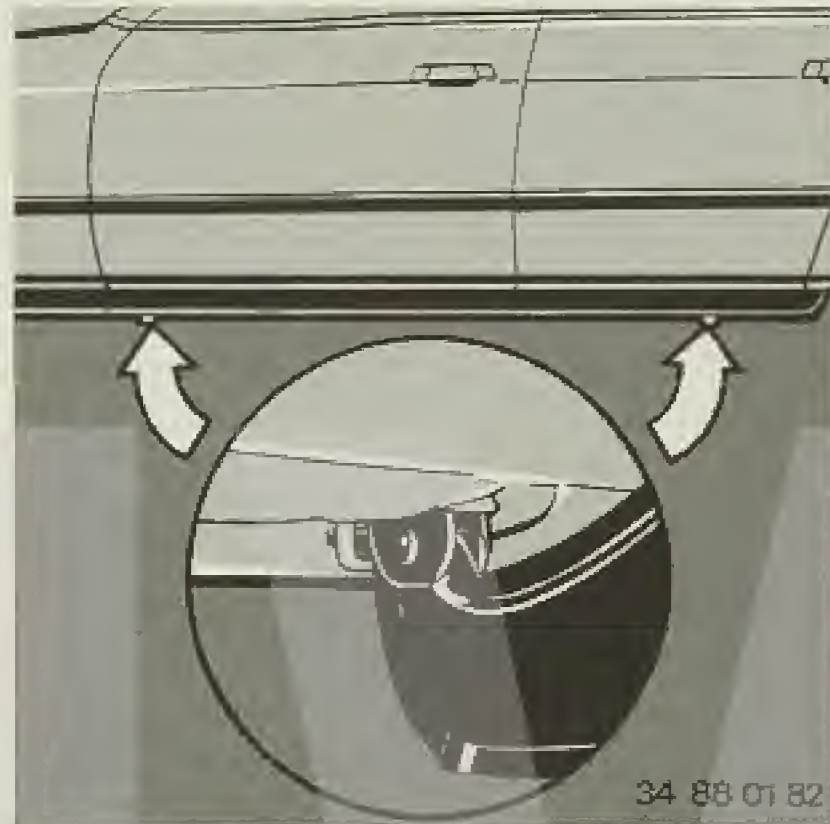
Car jack and wheel stud wrench

Located on the right of the luggage compartment. Lift up the luggage compartment floor mat, take off the trim (by opening the quick-release fastener). To prevent noise after putting the jack back in the luggage compartment, retract it fully and secure it in its original position with the wing nut.

BMW touring:
Under the front flap in load area floor.

Wheel chock

The wheel chock is located in the luggage compartment next to the jack and held firmly to prevent noise. Depending on the slope, place the chock in front of or behind the opposite rear wheel to prevent the car from rolling away when it is lifted by the jack.



Pressed-steel wheels: remove the full-width wheel cover by hand.

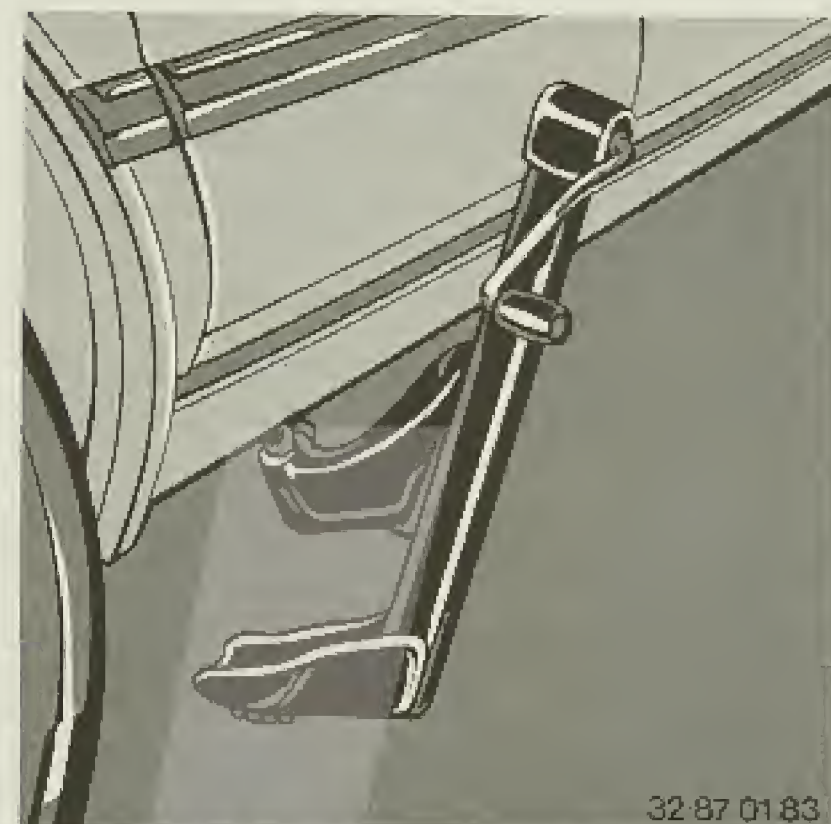
Light-alloy wheels: press off the wheel stud cover with a screwdriver. Light-alloy wheels with wheel studs in the form of a large hexagon: turn this anticlockwise with hexagon socket wrench and with the aid of the wheel stud wrench to release. The large hexagon wrench is kept under the spare wheel cover in the luggage compartment, or under the front flap in the load area on the BMW touring.

Loosen the wheel studs.

Attach the jack to one of the **four pick-up points** so that the foot of the jack is squarely on the ground. Turn the jack handle until the wheel is clear of the ground.

Warning:

Use the car's jack only for wheel changing. Never try to use it to raise a different car or



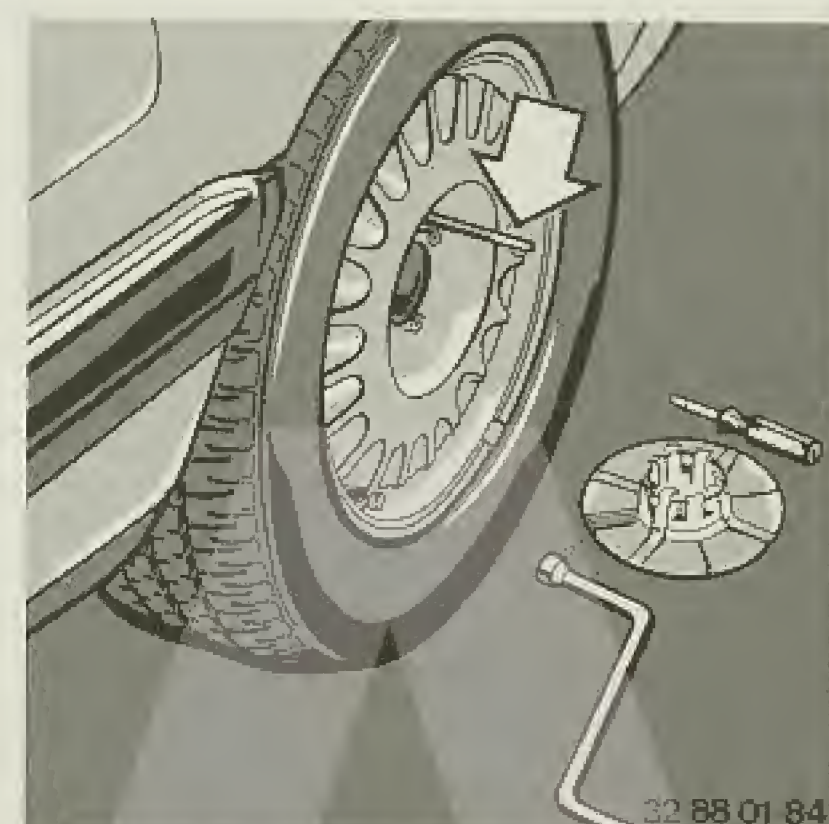
any other kind of load, or else accidents and personal injury may occur.

Warning: never lie underneath a jacked-up car, or else you risk a fatal accident.

Unscrew and remove the wheel studs and take off the wheel.

Offer up the new wheel, inserting the centring pin * from the toolkit together with the plastic fitting into one of the tapped holes if necessary, and tighten the wheel studs in a cross-wise manner (remove centring pin) and tighten evenly.

Lower the car with the jack. Tighten the wheel studs firmly in a crosswise pattern (first one stud, then another on the opposite side of the wheel). For safety reasons, have the tightening torque (110 Nm) checked with a calibrated torque wrench at the earliest opportunity.



When a wheel is installed for the first time (e.g. the spare wheel), check the tightening torque after the first 1 000 km (600 miles).

When fitting other than Genuine BMW light-alloy wheels, it may be necessary to use the corresponding wheel studs in place of the standard BMW studs.

To attach the **full-width wheel cover**, the tyre valve must be at the bottom. First place the cover against the rim at the valve side, then hold it in this position with the foot and press it up with both hands.

Light-alloy disc wheel: press on wheel stud cover.

Wheel stud cover shaped as large hexagonal-type nut: apply the cover centre-on. While pressing on, turn to the left or right until the wheel stud cover engages in position. On cross-spoke wheels *, align the marker arrow on the wheel stud cover with

the mark on the wheel and press on the cover.

Have the flat tyre repaired and the wheel balanced as soon as possible.

Tyre repairs should always be entrusted to a BMW service station or specialist tyre dealer capable of examining the tyre to determine the full extent of potentially concealed damage.

Important: when removing or renewing tubeless tyres, the rubber valve must always be renewed as well as a safety precaution.

Size 255/40 ZR 17 tyres * on the rear wheels

In the event of a puncture or tyre failure the spare wheel, which has a size 235/45 ZR 17 tyre, may have to be fitted at the rear. This wheel and tyre can be used for all vehicle loads and road speeds, but a tyre of the specified 255/40 ZR 17 size should nevertheless be fitted again as soon as possible.



Lockable wheel studs *

Take off the end cap, using the edge of the key if necessary.

Insert the key in the lock, turn it app. 90° in either direction and lift off the lock.

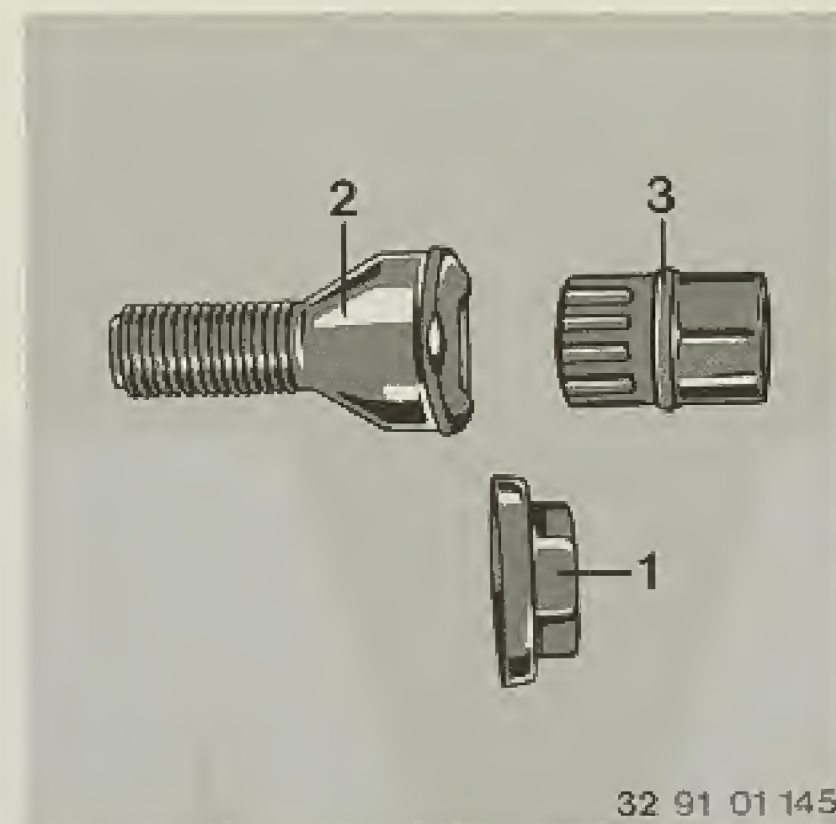
0 = Locked
I = Unlocked

Fit the lock by following the same procedure, but in the reverse sequence. Hold the lock tight when pulling out the key.

Note:

The lockable wheel stud should always be fitted opposite the tyre valve.

Recommendation: to ensure that the lockable wheel studs can always be removed when necessary (in the workshop, for example), keep a key in the car's toolkit.



Thiefproof wheel studs *

- 1 Cap (not on wheels with wheel stud covers)
- 2 Wheel stud for adapter
- 3 Adapter (supplied in toolkit)

To remove:

- Turn the cap (1) slightly to the left with the wheel stud wrench and remove it.
- Take adapter (3) from the car's toolkit or out of the compartment under the front flap in the load area on the BMW touring and insert it into the wheel stud.
- Unscrew the wheel stud (2).

After inserting and tightening the wheel stud again, remove the adapter and press on the cap.

The code number is stamped on the face of the adapter. Please note this number and keep this information in a safe place in case the adapter is lost.

Brake system

If the warning light for the brake hydraulics comes on (**LOW BRAKE FLUID** Check Control display):

- loss of brake fluid is indicated by increased brake pedal travel.

Failure of one brake circuit

Pedal travel will increase and greater pedal effort will be needed.

The car can still be braked satisfactorily with only one circuit in operation.

As for all brake system faults, the car should be taken to a BMW service station for immediate repair.

BRAKE LININGS warning in Check Control:

- brake pads worn/renew without delay.

Important: use only brake linings approved by BMW, or else the car's operating permit will be rendered invalid.

Power steering

If the steering becomes stiff, check the oil level (see Page 87).

If the steering is stiff only when the wheel is turned quickly, the V-belt is slack or faulty. Have it retensioned or renewed.

If these measures prove ineffective, consult a BMW service station.

Cars with Servotronic *:

If steering becomes increasingly light in action at high road speeds, there is a malfunction in the electronic control system.

Warning:

If the power assistance fails, a greater force than usual must be applied at the steering wheel to steer the car.

Self-levelling suspension *

If the SUSPN LEVELLING display appears in the Check Control:

If the car is **considerably overloaded** (rear end of car has dropped noticeably), reduce the load on the car to comply with the permitted rear axle load limit. When normal operating conditions have been restored, the display will disappear.

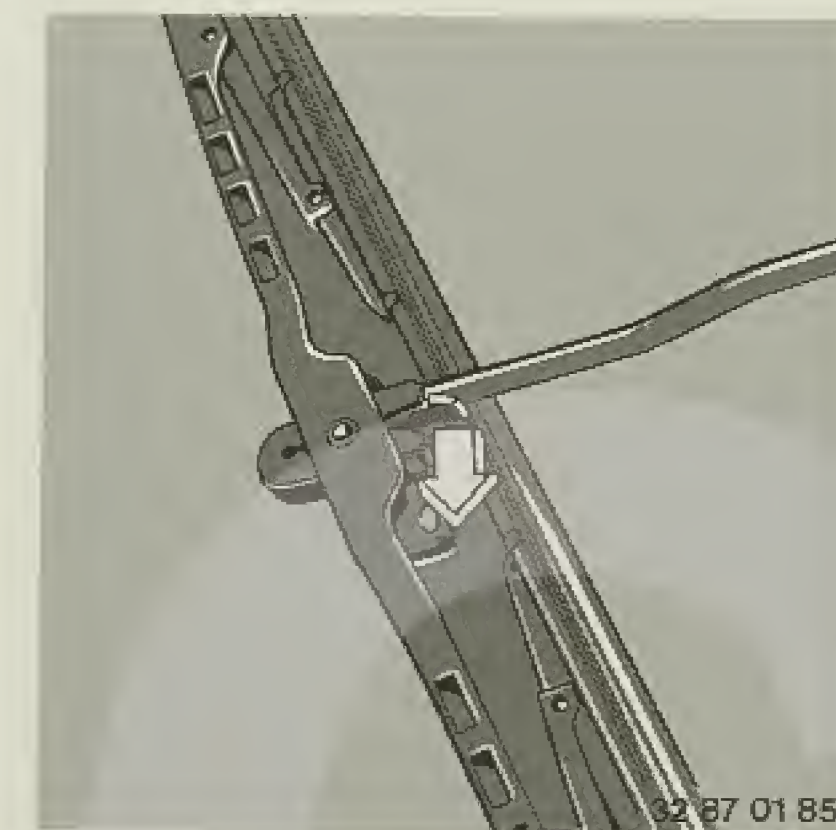
If there is a **defect in the self-levelling system**, consult a BMW service station. Do not exceed a road speed of 170 km/h (106 mile/h), since the increased rear-wheel camber angle imposes more severe loads on the tyres.

BMW 525td/tds

Warning light for electronic fuel injection control

If this light comes on while the car is being driven:
Electronic fuel injection system malfunction.

Unless the engine fails to run at all, the car can still be driven with the aid of a stored emergency program, though engine power output may be lower. However, you should have the fault repaired by a BMW service station as soon as possible.



Windscreen wipers

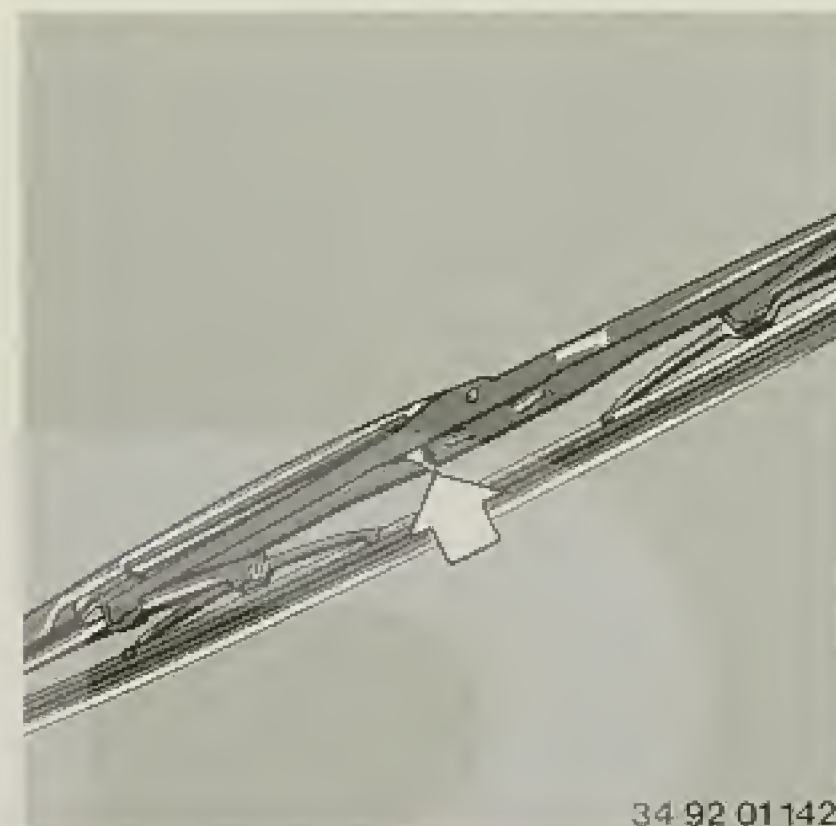
Renewing a wiper blade:

Lift up the wiper arm.

To change the blade on the driver's side, first pull the outer retaining spring and then the inner one (arrow) until the wiper blade can be disengaged.

There is only one retaining spring on the front passenger's side.

Pull the wiper blade towards the wiper arm to remove.



34 92 01 142

Rear-window wiper

Changing wiper blade:
Push retaining spring (arrow) to the side and unclip wiper blade from the holder.



34 95 01 86

Sliding/vent roof

Manual operation in the event of electrical failure:

- take off the cover
- insert the Allen key from the car's toolkit in the hexagon socket on the shaft (arrow 1) and turn it to move the sunroof panel in the desired direction.

Note:

The sunroof panel will move more easily if the plug (arrow 2) is pulled off first.

Have the fault repaired without delay by a BMW service station.

Double-panel sunroof

Manual operation in the event of electrical failure:

Closing the front roof: remove the cover in front of the roof aperture, insert the Allen key located on the cover in the socket of the front drive motor (see arrow 1 in illustration on left) and turn in a counterclockwise direction only.

Closing the rear roof: pull out the stopper behind the roof aperture, if necessary with the aid of a screwdriver. Turn the Allen key in a counterclockwise direction only.

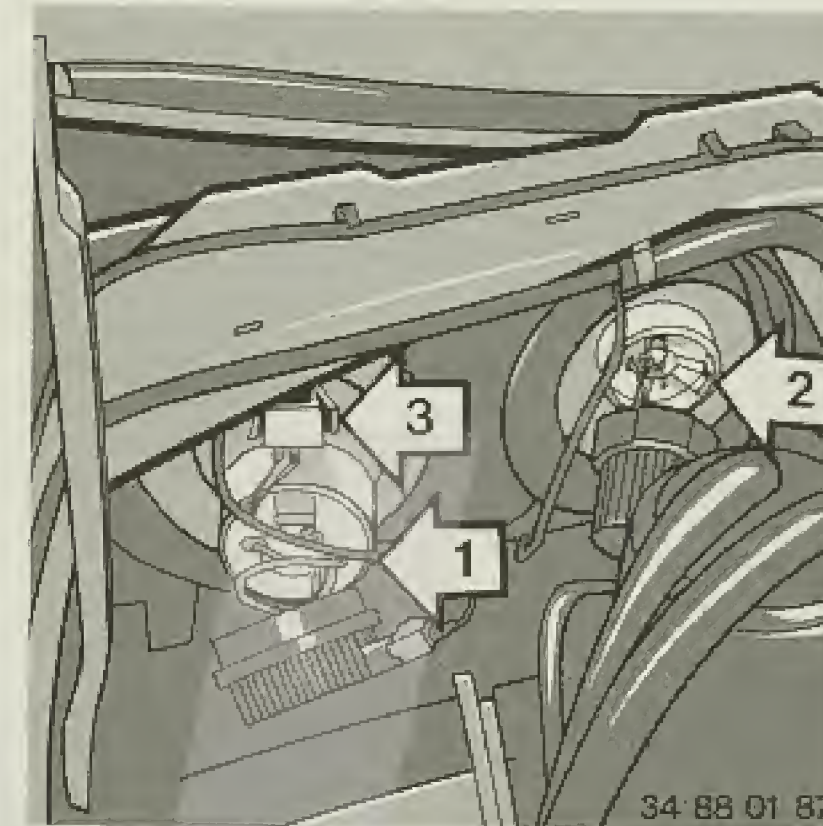
Important:

This roof may only be **closed** manually, not opened; always close in the following order:

- first the front roof, then
- the rear roof.

For both roofs, note that before inserting the Allen key in the socket, it is essential to press off the bushing on the hexagonal socket with the flat end of the key. Push the bushing back in after manual operation of the roof.

Have the fault rectified immediately by a BMW service station.



34 88 01 87

Changing bulbs

When performing any work on the car's electrical system, always switch off the item concerned or disconnect the battery negative lead to avoid the risk of short-circuits.

Do not hold new bulbs with bare fingers. Use a clean cloth, paper towel or similar, and only hold the base of the bulb.

A box of spare bulbs for emergency use is available from BMW service stations.

Low beam headlights (1)

55 Watt H1 halogen bulb

Remove the headlight cover, turn the plastic cap to the left and pull it off the rear of the headlight unit.

Release the wire spring clip, pull the plug off the bulb and renew the bulb.

High beam headlights (2)

55 Watt H1 halogen bulb

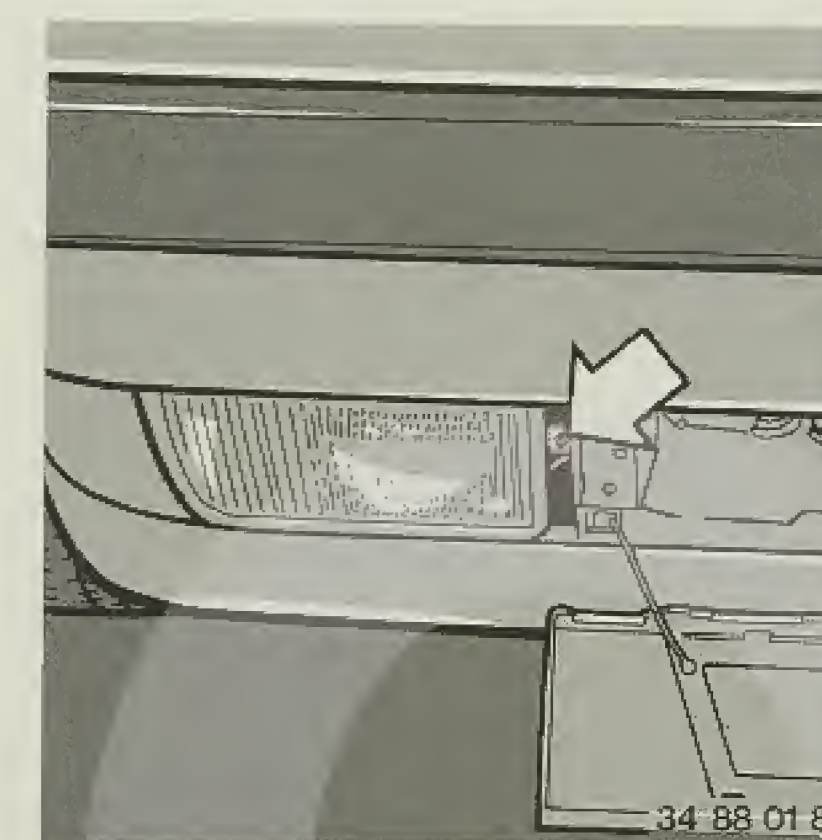
Same bulb-changing procedure as low beam headlights.

To prevent water entering through loose outer covers, make sure that all three pins of the bayonet catch engage when attaching the covers.

Parking and side lights (3)

5 Watt bulb.

Press the bulb holder in slightly and turn it to the left to remove. Pull out the bulb.

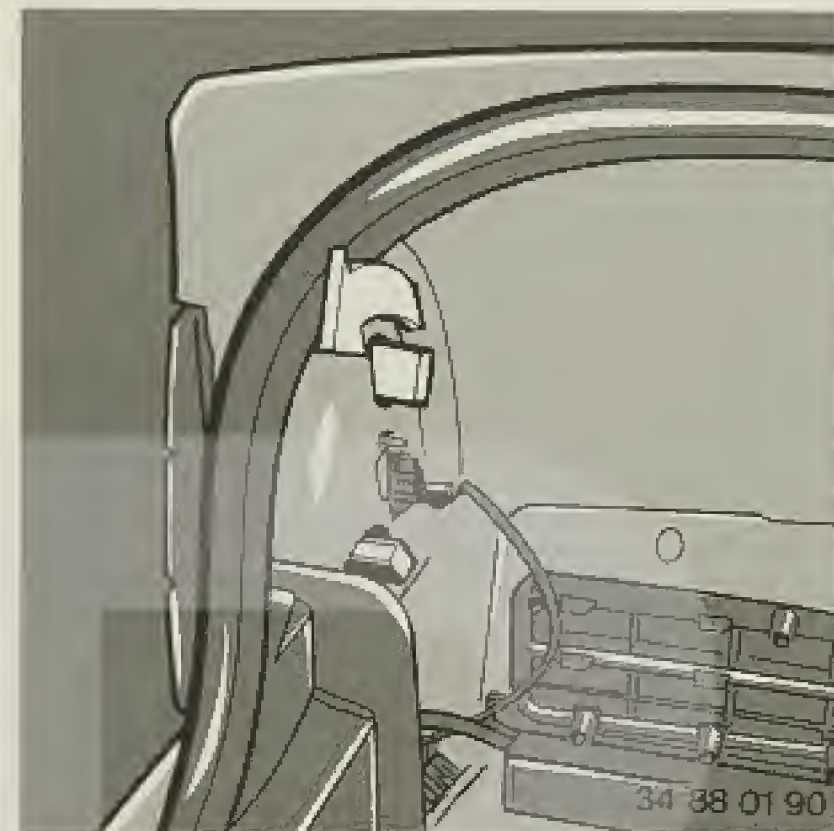


34 88 01 88

Front fog lights

55 Watt H1 halogen bulb

Take off the cover next to the headlight (see 'Towing eyes'), remove the Phillips-head screw (arrow) and swing the light assembly out. Turn the cover to the left and remove it from the back of the light. Release the wire spring clip and renew the bulb after detaching the plug from it.



Rear light cluster

Rear lights: 10 Watt bulb
Other lights: 21 Watt bulb

Lights in rear bulkhead:

Lift up the luggage compartment floor mat and take off the rear-panel trim after opening the quick-release fasteners.

Gently press in the holder of the affected bulb and turn it to the left to remove. Remove the bulb from the holder in the same way.

BMW touring:

Open the flap in the left-hand side compartment of the load area and take off the trim. Change the bulb as described above.

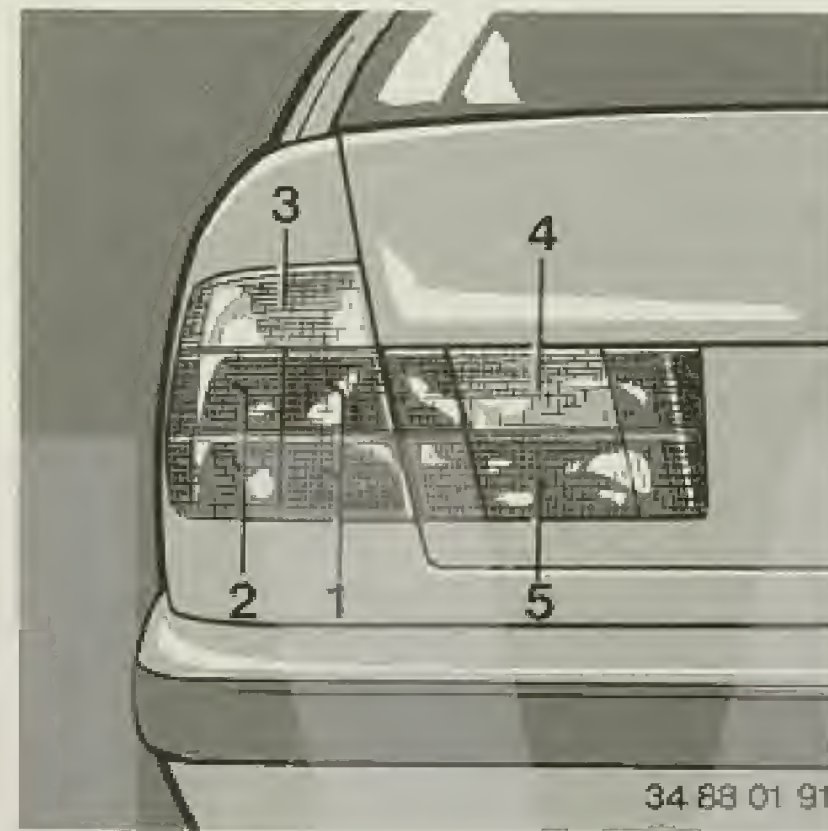


Lights in luggage compartment lid:

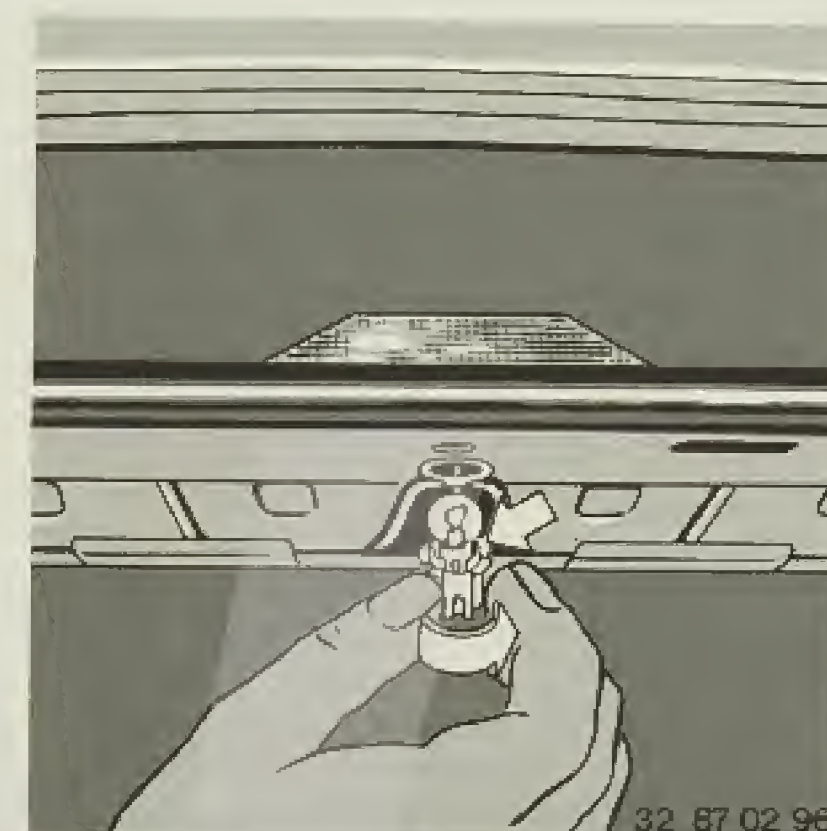
Lift up the trim sufficiently, gently press in the holder of the affected bulb and turn it to the left to remove. Remove the bulb from the holder in the same way.

BMW touring:

The bulbs are located behind the toolbox trim on the back of the tailgate trim. Change the bulb as described above.



- 1 – Rear light and reflector (red)
- 2 – Brake light (red)
- 3 – Turn indicator (yellow)
- 4 – Reversing light (white)
- 5 – Rear fog light (red)



Central brake light *

21 Watt bulb

Open the luggage compartment, turn the bulb holder to the left while pressing it in slightly, and take it out. Remove the bulb from the holder in the same way.



Front turn indicators

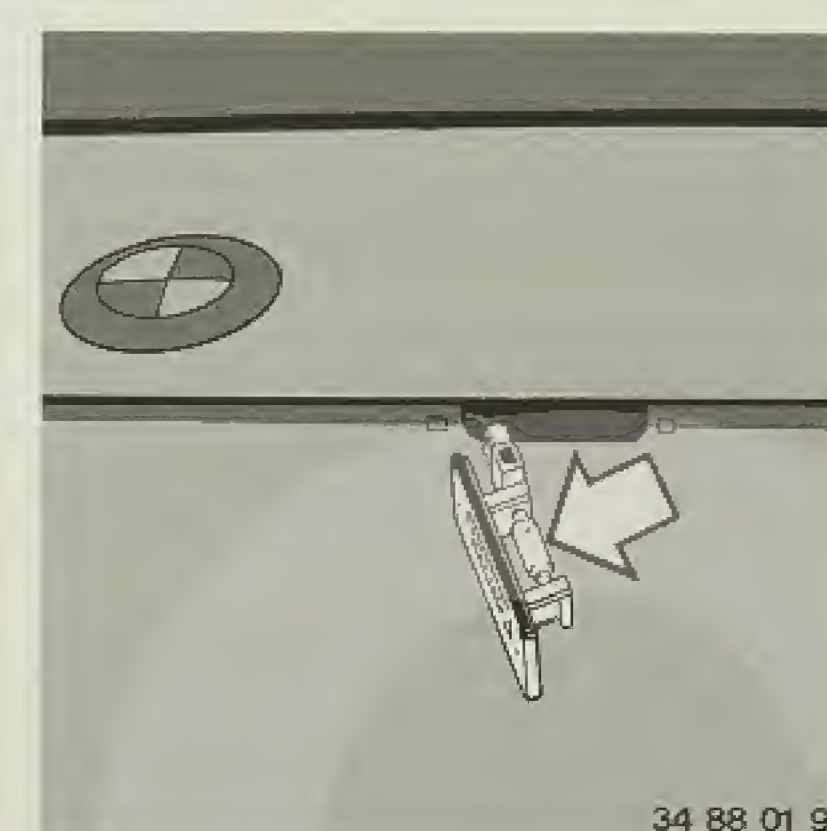
21 Watt bulb

Squeeze the bulb holder tabs gently together and pull out the bulb holder. Press the bulb in gently and turn to the left to remove from the holder.

Side turn indicator repeaters *

5 Watt bulb

Remove the Phillips-head screw and push the housing forwards out of the side panel. Turn the bulb gently to the left to remove.



Licence plate light

5 Watt bulb

Remove the Phillips-head screws and take off the lens frame with rubber seal. Pull the bulb out of the contact blades.

BMW touring:

Unclip the bulb at both sides with the aid of a screwdriver, press the retaining spring to one side and change the bulb.

Interior lights

Front: 10 Watt bulbs

Press out lens with a screwdriver at the left-hand recess. Pull the bulb out of the contact tongues.

In conjunction with reading lights:

Interior light: 15 Watt bulb

Reading lights: 10 Watt bulbs

Press out the bulb with a screwdriver at the left-hand recess.

Interior light: press back the plastic tab on the reflector, fold open the reflector and remove the bulb.

Reading light: press the bulb in slightly and turn to the left to remove.

Rear: 10 Watt bulbs.

Press out the bulb with a screwdriver at the side recess. Fold open the reflector and change the bulb.

Reading light: press the bulb in slightly and turn to the left to remove.

Luggage compartment lights

10 Watt bulbs

Light on underside of rear shelf:

Press out the bulb with a screwdriver at the side recess and change the bulb.

Lights in luggage compartment lid: pull off the glass and change the bulb.

BMW touring

Load area light

10 Watt bulbs

Lift off lens (with the aid of a screwdriver if necessary) and change the bulb.

Engine compartment light

10 Watt bulb

Press the clip away from the glass with a screwdriver, take off the glass and renew the bulb.

Laying up out of use

If the car is to be laid up out of use for **more than three months**, we recommend that the following maintenance work be carried out by a BMW service station to prevent deterioration during the storage period.

1. Clean and apply protective or preservative treatment to the engine, engine compartment, underbody, axles and other mechanical assemblies in accordance with BMW factory instructions. Wash the body, clean the interior and clean or protect the paintwork and chromium-plated parts as necessary. Clean rubber seals on doors and lids, and rub them with talc or glycerin.
2. Change the engine oil and renew the filter element while the engine is at normal operating temperature. As an additional anti-corrosion measure, a corrosion inhibitor can be added to the engine oil in accordance with the supplier's instructions.
3. Check coolant level and concentration, and correct if necessary.
4. Check acid level in the battery cells and top up with distilled water if necessary.
5. Drain the windscreen washer fluid tank and lines.
6. The fuel tank should be filled to prevent moisture condensate from forming.
7. Increase tyre pressures to 4 bar (app. 57 lb/in²).

Drive the car immediately before it is to be taken out of use and apply the foot brake and the handbrake until sufficient heat is generated to dry out the brake pads and linings and ensure that the brake discs and drums cannot corrode.

Store the car in a dry, well-ventilated place. Select reverse gear (P on cars with automatic transmission). Do not apply the handbrake; if necessary, chock a wheel to prevent the car rolling away.

Remove the battery, recharge it and store in a cool place where it will be protected against frost. The battery must be recharged at least every 3 months, or it will become unsuitable for further use. Every time the battery runs flat, particularly if left in this state for any length of time, its operating life is reduced.

Note that if the car's registration was allowed to lapse or the car was officially taken out of use, the proper legal procedure and the time limits for re-registration must be carefully observed, or else the car's operating permit may be invalidated. Comply with your national regulations.

Restoring car to use

First recharge the battery or renew it if necessary.

An authorised BMW service station should then perform Inspection I.

Note:

When indicating the next change of brake fluid, the service indicator does not take into account periods during which the battery has been disconnected.

Any such times must be taken into account to ensure that the brake fluid is changed according to schedule (every two years), i.e. it will be necessary to change the brake fluid before the clock symbol lights up.

Winter operation

The winter months often bring with them severe changes of weather, and you must not only adopt a correspondingly cautious attitude to driving but also take certain precautions to ensure that your car comes through the winter months reliably and without breakdowns.

On winter roads, tyre grip is often very poor, and the driver must remember that braking distances are much greater than usual in many situations.

Before the cold season of the year commences, you are recommended to take your car to a BMW service station for the necessary winter preparations to be carried out.

Comply with the appropriate **engine-oil requirements**, and do not wait until the next scheduled oil change to fill the engine with winter-grade oil if the weather turns cold suddenly.

Apart from checking oil levels, no special winter operating precautions are needed on the manual gearbox/automatic transmission, final drive, power steering, hydraulic brake system or self-levelling suspension.

The coolant already contains a **long-life antifreeze and corrosion inhibitor**. To ensure full corrosion protection, its concentration must be kept at 40 % all the year round. This provides antifreeze protection down to approx. -27° C (-16.6° F).

Use only factory-approved long-life nitrite- and amino-free antifreeze and corrosion-inhibiting additives. BMW service stations know the approved grades.

Renew the coolant **every 2 years**. Check antifreeze concentration before and during the cold season of the year. At the same time, inspect the cooling system for leaks and renew any coolant hoses which have become porous or brittle.

Engine temperature is regulated by the coolant thermostat according to engine load and outside temperature. For this reason, no radiator blind or grille blanking-off material should be used.

The engine will not start reliably unless the **battery** is fully charged. Remember that a cold battery is less efficient, yet the demands made on it are more severe than in warm weather.

Use only factory-approved care products* on the **locks**. These products also help prevent the locks from freezing; but if a lock should freeze despite these precautions or due to a defective door-lock heating system, the key can be heated before inserting to thaw out the lock.

Do not use de-icer as it has a degreasing effect and will impair the functioning of the locks.

To prevent **rubber seals** on doors and lids from freezing, treat them with a rubber-care product* or silicone spray*.

The car's **paintwork**, as well as **chromium-plated or polished metal parts**, should be protected before and during the winter months by applying suitable body-work care products*.

Have your car's brakes checked regularly before and after each winter driving period by a BMW service station. This work can usually be combined with whatever maintenance routine happens to fall due.

Diesel oil

To ensure reliable operation of the diesel engine during the cold season, make sure that you refuel with "winter-grade" diesel oil, as sold by reputable garages and filling stations during this period. The standard fuel-filter heater prevents the fuel from setting when the car is being driven.

The use of flow improvers is not permitted, as these can lead to problems in the fuel system.

The fuel's pour point can be lowered by adding paraffin:

Paraffin:	Winter-grade diesel oil:	Sommer-grade diesel oil:
	Pour point:	
10 %	app. -20° C (app. - 4° F)	app. - 9° C (app. +16° F)
30 %	app. -26° C (app. -15° F)	app. -15° C (app. + 5° F)
50 %	app. -31° C (app. -24° F)	app. -25° C (app. -13° F)

In an **emergency**, up to 30 % regular-grade (2-star) fuel (petrol, gasoline) can be added to the diesel oil to prevent paraffin from being precipitated out. (Use only unleaded fuel for this purpose on cars with catalytic converter.) However, this measure will have an adverse effect on fuel consumption and driving characteristics.

In cold weather, we recommend carrying the following items in case of emergency:

A quantity of **sand** to aid starting on ice-covered slopes.

A **shovel** to dig the car out of snowdrifts.

A **plank** to act as a support for the car's jack.

A **brush and ice scraper** to clear the windows and body panels if covered with snow or ice.

BMW snow chains * for all severe winter driving conditions. These may be fitted on summer and winter tyres, always only in pairs on the driven (rear) wheels. Always observe the tyre manufacturer's safety recommendations.

BMW 525iX:

In an absolute emergency only, for instance if the car's wheels on one side are stuck or one tyre cannot be reached, chains may be fitted to one rear wheel temporarily.

With snow chains fitted, a **speed of 50 km/h (31 mile/h)** should not be exceeded.

Always comply with the local regulations of the country in which you are driving.

Any BMW service station will be pleased to provide further details.

Winter driving hints

When planning a fairly long journey in winter, allow plenty of time in case severe weather conditions and bad roads are encountered. Local newspapers, radio and TV, the telephone service and the automobile clubs provide information on local road conditions, and also whether certain mountain passes are open to traffic.

Before starting the journey, remove ice and snow from the windows, outside mirrors and lights. After a heavy fall of snow, clear the roof and the engine and luggage compartment lids as well. Clear snow away from the entry grilles for the heating/ventilation system in front of the windscreen, so that the airflow is not impeded.

Before getting into the car, try to remove slush, snow and ice from your shoes to avoid the risk of slipping off the pedals.

Driving in ski boots is definitely not recommended, as it is difficult to operate the pedals with a sufficient degree of sensitivity.

After starting a cold engine, particularly at temperatures below -15° C (+5° F), the gear lever may be stiff and the car's suspension may not respond smoothly for the first few minutes of the journey, and other items of equipment may be noisier than usual. This is unavoidable while the oil is still cold and viscous.

When **driving on a slippery surface**, operate the accelerator pedal slowly and smoothly, and avoid high engine speeds by selecting a higher gear quite early. Keep a particularly generous safety margin between your car and the vehicle in front. Select the next-lower gear in good time before reaching an uphill or downhill gradient.

To improve starting on icy or snow-covered roads and in hilly country when the car is only lightly laden, 30-50 kg (66-110 lb) of ballast can be carried in the luggage compartment. Make sure that the ballast is firmly secured and cannot slip.

If the car **skids**, ease back the accelerator and depress the clutch, or move the selector lever to position N on cars with automatic transmission. Try to steer into the skid and get the car back under control in this way.

When **braking**, ABS prevents the wheels from locking and the car can be steered and manoeuvred. Should the ABS fail and the wheels lock, reduce pressure on the brake pedal until the wheels are just rotating but are still braked. Then increase pedal pressure again until the wheels lock, release it again etc. Repeat this "cadence braking" sequence as often as possible: it shortens total braking distance and the car remains steerable, so that you have a chance of driving round an obstruction with which you might otherwise collide.

* Available from BMW service stations



Warning:
BMW 525i with ASC+T and cars without ASC+T:

On a slippery surface, do not shift to a lower gear as a means of braking the car, or the rear wheels may lock and cause the car to skid or the driver to lose control. This is also the case for the BMW 530i and 540i with ASC+T if the system is faulty or switched off. ABS cannot counteract this form of wheel locking.

Note: when braking heavily on a slippery surface or one providing markedly varying amounts of grip, always declutch.

If the car is immobilised in deep snow, sand or soft ground, pack some firmer material under the rear wheels to provide extra grip before the car digs itself in too far. If nothing else is available, use the car's floor mats. Obtain help if possible to push the car back on to a firm surface. With a degree of skill, the car can be "rocked" out of the holes: use a light throttle opening and select a forward gear and reverse in quick succession, and accelerate only when the car is moving in the desired direction. Avoid wheelspin, however, or the car will sink in deeper still. The handbrake can be applied lightly to prevent one rear wheel from spinning.

Warning:

If the car becomes immobilised in snow or sand, make sure that the exhaust pipes and the surrounding area are clear of snow or sand when the engine is running. There is otherwise a risk of odourless but highly toxic carbon monoxide entering the car and rendering the occupants unconscious or even having fatal consequences. Open a window slightly on the side of the car away from the wind to ensure an adequate supply of fresh air.

Snow chains are permitted only in pairs on the driven (rear) wheels (BMW 525iX: see preceding page). If available, fit them in good time. They increase driving safety on snow and ice, enable the car to climb hills without slipping and reduce braking distances.

However, the driver must become accustomed to the car's changed handling characteristics. Remove the snow chains as soon as possible, as they wear out very rapidly on clear roads.

During a break in the journey or when filling the tank, remove **built-up snow and ice from inside the wheel arches**, to ensure that steering and suspension movements are not impeded.

When **parking** your car, prevent it from rolling away by selecting 1st gear or reverse as appropriate, or P on the automatic transmission. Apply the handbrake if parked on a slope. To prevent the handbrake linings from freezing to the drums in cold weather and to avoid corrosion, apply the handbrake to bring the car to a standstill from slow speed, so that the linings and drums are dried by the heat thus generated.

Useful information on disc brakes

A disc brake system offers optimum braking efficiency, smooth response and high load capacity. The high temperatures which occur during brake applications, for instance when driving hard in hilly areas, necessitate maximum cooling; this is provided by ram air and by the speed of rotation of the brake disc. Severe loads on the brakes affect the temperature of the brake fluid and the pads; overheating may reduce braking efficiency or cause "fading", increased pedal travel and possibly the need for greater effort to be applied at the pedal. However, the boiling point of modern brake fluids is so high that only exceptionally severe use of the brakes amounting to carelessness on the driver's part should cause such situations to arise.

Wet conditions, dirt, salt spread on the roads in winter and brake disc corrosion can impair braking performance by increasing braking distances, altering the car's normal brake force distribution or causing variations in the coefficient of friction at the various wheels, so that the car pulls to one side.

Brake disc corrosion is accelerated if the car is used very little or is garaged for long periods.

Gentle use of the brakes, although in itself not undesirable, can encourage brake disc corrosion and allow the pads to become dirty, since the minimum pressure needed

for the disc brake's self-cleaning action is not attained between pad and disc.

Corroded brake discs may result in a knocking effect when the brakes are applied; this cannot always be eliminated by prolonged braking.

On the other hand, slight corrosion and surface roughness can be removed by fitting brake pads with an abrasive corundum coating. Any BMW service station can provide information on braking during the running-in period, use of these brake pads etc.

Dirt burnt into the brake pads (glazing of rubbed area) leads to scoring of the brake discs and also a change, reduction or delay in braking effect.

Another problem in this connection is brake squeal, which tends to increase in intensity as the discs become dirtier or more glazed.

All these **climatic and environmental effects cause a change in the brakes' coefficient of friction**, that is to say less braking efficiency is available for a given pedal effort. If the coefficient of friction changes differently at the various brakes, the car may respond unevenly or pull to one side.

Recommended driving procedure for disc brakes

At intervals when traffic conditions allow, disc brakes should be applied quite hard once or twice from high speed. The resulting high braking pressure ensures that the brake pads and discs are kept clean.

Similarly, on long journeys in poor weather conditions, particularly in winter if salt has been spread on the roads, it is advisable to apply the brakes firmly from time to time when it is safe to do so. This not only tests their efficiency in the prevailing conditions (but take care at temperatures around freezing point!), but also results in a self-cleaning action to ensure that they are ready to operate efficiently even in the worst possible weather conditions.

In wet weather and when rain is actually falling, it is advisable to apply the brakes briefly at light pedal pressure at relatively frequent intervals during the journey. The heat generated in this way keeps the discs and pads dry for a certain period.

Before parking the car after driving through rain, and particularly if salt has been spread on the roads, lightly brake the car to a standstill so that the brake discs are dried and cannot corrode so easily.

If the brake discs already show signs of corrosion, the problem can be cured in its early stages by applying the brakes hard several times. Take care not to endanger other road users, and avoid locking the wheels.

The most effective braking action is always achieved not with locked wheels, but when the wheels are still just turning, the result obtained by the antilock brake system.

If the ABS should fail, use "cadence braking" if at all possible (see Page 107).

Locking the wheels can be dangerous, as locked front wheels can no longer be steered, and locked rear wheels cause the car to skid sideways or spin.

If the brake pads are severely corroded or the pads are very dirty (glazing of rubbed surfaces), they must be examined, cleaned, reconditioned or renewed by a BMW service station.

Even long, steep downhill gradients in the mountains need not adversely affect the action of the brakes if you select the correct gear ratio or automatic-transmission speed range to keep braking operations to a minimum. The engine braking effect is higher in the lower gears; in extreme cases, shift right down to 1st gear or selector lever position 1.

If the engine braking effect is still not sufficient to prevent the car from descending a hill faster than intended, it is wrong to apply the brakes continuously at light or medium pedal load. Instead, brake the car to a safe speed using quite high pedal pressure (but with due consideration for following traffic), then apply the brakes again at intervals to keep the speed down. The cooling phases between brake applications help to avoid overheating and the risk of brake fade.

Never drive with the clutch pedal depressed, the gear lever or automatic transmission selector in neutral or – still more dangerous – with the engine switched off at the ignition. In neutral, engine braking is entirely lost, and if the engine is switched off the brake booster servo is no longer able to reduce pedal pressure in the normal way.

Warning:

Unrestricted movement of the brake, clutch and accelerator pedals must never be prevented by the floor mats, carpet or any other objects.

BMW 525iX

Warning:

Always entrust brake checks to your BMW service station.

What you should know about tyres

Information for your safety

The factory-approved radial-ply tyres have been chosen to suit your car and provide both optimum road safety and the desired level of ride comfort.

The condition of the tyres and maintenance of the specified tyre pressure not only influence tyre life but also road safety to a very considerable extent.

Incorrect tyre pressures are often a cause of tyre problems. They also have a considerable effect on the roadholding of your BMW.

For your own safety you are recommended to check tyre pressures **regularly**, before starting a long journey and in any case **at least once every two weeks**.

Make sure in particular that the specified tyre pressures are maintained if the load on the car is increased and when driving at high speeds for extended periods. Lower pressures than those specified will reduce stability and driving safety, because lateral locating forces are lower. The tyres will be less capable of withstanding high speeds and will heat up more rapidly as a result of excessive flexing. The associated higher roll resistance will cause fuel consumption to deteriorate and could lead to tyre damage and accidents.

It should be remembered that if a tyre suffers concealed damage it may only fail much later or when exposed to a less severe load.

If a tyre loses pressure severely always have the cause investigated and put right. Remember to check the spare wheel's pressure too, and keep this approx. 0.3 bar (3–4 psi) higher than the specified value for heavier loads, so that the tyre can always be fitted without having to be inflated further. Higher tyre pressure reduces ride comfort and leads to premature tread wear.

Warning:

Over-inflating the tyres can cause tyre damage or, in certain circumstances, sudden loss of pressure, because the tyres are more sensitive to loose objects on the road or sharp-edged potholes.

Tyres are exposed to very severe loads at high speeds, particularly in hot summer weather and when the car is heavily laden. Please comply with the specified higher tyre pressure for heavier loads, and do not exceed the **permitted axle loads**.

Tread depth and tyre damage

Inspect tyres frequently for damage, the presence of foreign bodies, unusual wear and sufficient tread depth.

Although the law in many countries calls only for a **minimum tread depth** of 1.6 mm (if indeed any minimum figure is laid down), you are recommended to replace tyres when the tread depth is down to 3 mm, or else the risk of aquaplaning even on shallow water will be increased.

Since the danger of aquaplaning always increases with the car's road speed, this should be kept down if the road is wet and the tyres are known to be fairly well worn.

We recommend fitting new tyres when the treads are 3 mm deep. If a tyre remains in use after this, wear indicators 1.6 mm from the main rubber surface are exposed as a sign that the legal wear limit has been reached.

The recutting of tyre treads for this car is forbidden, because of the risk of the carcase already having been damaged.

A sharp object may penetrate the tyre and cause a slow puncture. The resulting loss of air can only be detected if tyre pressures are checked regularly. If damage of this kind is suspected, the tyre should be inspected without delay by a BMW service station or an authorized tyre repair shop.

Drive with extreme care and at moderate speed if roads are poor or over unavoidable obstacles such as kerbstones, so that the **tyre carcase** does not incur any damage invisible to the naked eye.

When parking the car or driving over loading ramps, workshop hoists etc., make sure that the **sides of the tyres** are not damaged by violent contact with obstructions.

Warning:

Avoid overloading the car. This can cause the tyres' load capacity limit to be exceeded, so that they overheat and internal damage is caused at a rate which cannot be detected from the outside, possibly leading to sudden pressure loss.

All forms of tyre damage (which could in the worst case lead to sudden and total loss of pressure) represent a risk of serious or even fatal injury to the car's occupants and to all other roads users.

Never try to drive any further if a tyre goes flat (except tyres of TD type). If a tyre loses its pressure, it seriously affects the car's handling and braking, and can even cause the driver to lose control.

New tyres

To maintain the car's good road behaviour, always fit tyres of the same make and tread pattern to all wheels. BMW does not approve of the use of retreaded tyres on this car, since their carcasses may differ in internal construction or have aged sufficiently to cast doubt on their durability and therefore in certain circumstances on their road behaviour and safety.

Interchanging wheels and tyres between the axles

Depending on individual vehicle operating conditions, tyre tread wear patterns at the front and rear wheels will differ. In the interests of safety and the best possible vehicle behaviour, you are recommended not to interchange the wheels and tyres after a period of operation.

If it is felt that the wheels and tyres should be interchanged on order to obtain maximum use before the tyres need to be renewed, remember that the anticipated extra tyre life before renewal has to be set against the cost of interchanging them correctly. Your BMW Service station can advise you.

If wheels and tyres are interchanged, note the following precautions:

Interchange the wheels on the same side of the car only (though the spare wheel can be included if desired).

Remember that braking efficiency and tyre grip may be adversely affected.

If tyres are interchanged in this way, the process should take place at frequent intervals (max. 5000 km/3000 miles).

Do not continue to use tyres that are more than 10 years old for normal driving unless they have always been used regularly in normal conditions. Failing this, they should be replaced. Spare tyres more than 6 years old should be reserved for genuine emergencies, that is to say if the car's mobility cannot otherwise be maintained. New tyres should be fitted in their place as soon as possible, and they should no longer be brought into regular service when new tyres are fitted.

A tyre's date of manufacture is shown as part of the inscription on the tyre wall: DOT ... 413 means for instance the 41st week of 1993.

Wheels and tyres

Use only BMW-approved tyres.

On models with a top speed in excess of 240 km/h (140 mile/h), certain tyre makes and sizes are compulsory. Details are available from any BMW service station. Comply in addition with any relevant national regulations.

The correct choice is made easier if the meaning of the tyre markings is understood. Radial-ply tyres are marked as follows:

e. g. 195/65 R 15 91 H

Nominal width in mm
Aspect ratio in %
Radial-ply construction code letter
Rim diameter in inches (TRX and TD tyres: in mm)
Load capacity figure (not on ZR tyres)
Speed code letter (ahead of the R on ZR tyres)

The speed code letter indicates the maximum permissible speed at which the tyre is to be operated.

On summer tyres:

S = up to 180 km/h
T = up to 190 km/h
H = up to 210 km/h
V = up to 240 km/h
W = up to 270 km/h
ZR = over 240 km/h

On winter tyres:

Q M+S = up to 160 km/h
T M+S = up to 190 km/h
H M+S = up to 210 km/h

Marks on steel or light alloy wheels:

6 J x 14 H 2

Rim width in inches*
Shoulder pattern code letter
Symbol for well-base rim
Rim diameter in inches*
Hump on both rim shoulders
* TD wheels: in millimetres

Protect dirt from entering the tyre valves with **screw-on dust caps**. Dirt in the tyre valve can often lead to a gradual loss of air pressure.

TD 230/55 R 390 low-section tyres with emergency-running characteristics (TD concept)*

In the event of a puncture, the emergency-running characteristics of this type of tyre enables you to drive out of hazard zones such as bottlenecks, heavy urban traffic, tunnels or building sites without any difficulty, even if the tyre is flat, so that the tyre can be changed in safety on a car park or at a filling station.

This type of tyre, if flat, can be driven app. 5 km (3 miles), or 10 km (6 miles) if a particularly cautious approach is adopted, depending on the vehicle's load and the condition of the road; maximum speed 60 km (37 mile)/h when driving in a straight line.

TD tyres may only be fitted on TD wheels.

Winter tyres

If the car is driven in winter conditions, we recommend that **winter tyres** (M+S radial ply tyres) be fitted. Although all-year tyres are available, and are superior in their winter performance to summer tyres of H, V, ZR and W speed ratings, they do not normally equal the performance of purpose-designed winter tyres.

If **winter tyres** are fitted, the same make and tread pattern should be used on **all four wheels** (and preferably on the spare wheel as well) in the interests of good directional stability and steering response.

Fit only **winter tyres approved by BMW**. Any BMW service station will gladly advise you on the correct winter tyres for the conditions in which your car has to operate.

Always note and comply with the maximum speed limit for your winter tyres.

In the Federal Republic of Germany, a notice stating the maximum permitted speed with winter tyres fitted must be displayed in **the driver's field of view** if the car is capable of a higher top speed. Suitable labels are available from tyre suppliers or BMW service stations.

Below a tread depth of 4 mm, winter tyres become noticeably less suitable for winter driving conditions and should therefore be replaced without undue delay for safety reasons.

Keep to the specified **tyre pressures** and have the wheels and tyres rebalanced each time the wheels are changed or new tyres fitted.

Note:

Lack of expert knowledge or incorrect handling of tyres can cause damage and lead to accidents. All work on tyres should therefore be carried out only by experts. Your BMW service station will gladly assist you.

Store wheels and tyres in a cool, dry and preferably dark place when not in use. Protect tyres against contamination by oil, grease and fuel.

Approved BMW wheel and tyre sizes for summer and winter tyres:

Radial-ply tyre (tubeless)	Pressed-steel wheel	Light-alloy wheel	Offset
BMW 518i, 520i, 525i, 525td, 525tds			mm (in)
195/65 R 15 91 V ¹⁾	6 J × 15 H2 ²⁾ 6 1/2 J × 15 H2		20 (0.79)
205/65 R 15 94 V 225/60 R 15 95 V	6 1/2 J × 15 H2 or 7 J × 15 H2	7 J × 15 H2	20 (0.79)
225/55 R 16 95 V		7 J × 16 H2	20 (0.79)
TD 230/55 ZR 390		390 × 180 TD	19 (0.75)
Front: 235/45 ZR 17 Rear: 255/40 ZR 17		8 J × 17 H2 9 J × 17 H2	20 (0.79) 22 (0.87)

¹⁾ Summer tyre size not for BMW 525i or 525tds

²⁾ Wheel size not for BMW 525i

BMW 518i touring, BMW 520i touring, 525i touring, 525td touring, 525tds touring

205/65 R 15 94 V ³⁾	7 J × 15 H2	7 J × 15 H2 ⁴⁾	20 (0.79)
225/60 R 15 95 V	7 J × 15 H2	7 J × 15 H2 ⁴⁾	20 (0.79)
225/55 R 16 95 B		7 J × 16 H2	20 (0.79)
TD 230/55 ZR 390		390 × 180 TD	19 (0.75)
Front: 235/45 ZR 17 Rear: 255/40 ZR 17		8 J × 17 H2 9 J × 17 H2	20 (0.79) 22 (0.87)

³⁾ Summer tyre size not for BMW 525i touring, or BMW 520i touring or 525td/tds touring with self-levelling suspension.

⁴⁾ If retrofitted, always ensure that the correct wheel version is selected. If in doubt, consult a BMW service station.

Note:

BMW 518i/touring, 525td/touring: the speed code letter "H" instead of "V" is permitted for summer tyres.

Please note the wheel/tyre specifications in the car's registration documents. Use of deviating wheel/tyre size approved by BMW may necessitate an official entry in the car's registration documents.

Winter tyres

The tyre/wheel combinations are the same as for summer tyres. Any exceptions are listed.

The use of **fine-link BMW snow chains*** with summer and winter tyres is permitted only in pairs, that is to say on both driven (rear) wheels.

Always observe the tyre manufacturer's safety recommendations when fitting.

There are no winter tyres for sizes 235/45 ZR 17 (front) and 255/40 ZR 17 (rear), and **snow chains cannot be fitted**.

Approved BMW wheel and tyre sizes for summer and winter tyres:

Radial-ply tyre (tubeless)	Pressed-steel wheel	Light-alloy wheel	Offset
BMW 525iX/touring			mm (in)
225/55 R 16 95 V	7 1/2 J × 16 H2	7 1/2 J × 16 H2	54 (2.13)
BMW 530i/touring, 540i/touring			mm (in)
205/65 R 15 94 Q/T/H M + S	6 1/2 J × 15 H2 ¹⁾ 7 J × 15 H2	7 J × 15 H2 ²⁾	20 (0.79)
225/60 ZR 15 225/60 R 15 95 Q/T/H M + S	— 6 1/2 J × 15 H2 ¹⁾ 7 J × 15 H2	7 J × 15 H2 ²⁾ 7 J × 15 H2 ²⁾	20 (0.79)
225/55 ZR 16		7 J × 16 H2	20 (0.79)
TD 230/55 ZR 390		390 × 180 TD	19 (0.75)
Front: 235/45 ZR 17 Rear: 255/40 ZR 17		8 J × 17 H2 9 J × 17 H2	20 (0.79) 22 (0.87)

¹⁾ Steel wheel not for BMW 530i touring.

²⁾ If retrofitted, always ensure that the correct wheel version is selected. If in doubt, consult a BMW service station.

Important:

Only light-alloy wheels are permitted on the **BMW 540i/touring**.

Please note the wheel/tyre specifications in the car's registration documents. Use of deviating wheel/tyre sizes approved by BMW may necessitate an official entry in the car's registration documents.

Winter tyres

The tyre/wheel combinations are the same as for summer tyres. Any exceptions are listed.

The use of **fine-link BMW snow chains*** with summer and winter tyres is permitted only in pairs, that is to say on both driven (rear) wheels.

Exception for BMW 525iX: see page 107. Comply with manufacturer's safety instructions when fitting.

There are no winter tyres for sizes 235/45 ZR 17 (front) and 255/40 ZR 17 (rear), and **snow chains cannot be fitted**.

Technical modifications to the car

Any BMW service station will advise you on the practical value, legal position and factory attitude before modifications are undertaken; please quote the vehicle identification number and, where appropriate, the engine number.

Adjusting headlight beam setting for countries where traffic drives on the opposite side of the road

If crossing a border into a country with a different "rule of the road", that is to say where the traffic drives on the opposite side of the road:

Have the necessary adjustment work carried out beforehand by a BMW service station.

Re-registration abroad

Each car is supplied in accordance with the road vehicle use regulations of the country for which it is intended.

If the owner moves abroad and wishes to re-register the car locally, information should be obtained well in advance as to possible import and licensing restrictions or differences in the legal position.

Information can be obtained on telephone 049-89-318401, if the model, vehicle identification number and date first registered are quoted.

Roof rack *

A loaded roof rack can seriously affect the handling and steering characteristics of the car by displacing its centre of gravity. When loading items on to a roof rack, make sure that the permitted roof load, gross weight and axle loads are not exceeded.

To ensure the lowest possible roof load and optimum drag coefficient, use only a BMW-approved luggage or ski rack. When installing a roof rack, make sure that the mountings are attached securely to the roof and are located as far apart as possible.

The roof load must be evenly distributed and not too large in surface area. Always stow the heaviest items at the bottom.

Make sure that luggage on the roof is secured tightly and in the correct manner, so that there is no danger of it shifting or even falling off and endangering other road users during the journey.

Drive smoothly, avoiding jerky starts and sharp braking, and do not corner too fast. Luggage on the roof increases the car's frontal area, so that fuel consumption suffers and the load on the car's roof panel is increased.

You are recommended to remove the roof rack whenever it is not needed.

Note and comply with national regulations when loading your car.



Roof rack system *

The cross-members are secured in the mounting slots in the roof rails.

Mounting procedure:

- Remove covers on mounting slots with the aid of a screwdriver.
- Open the lockable cover on the cross-member and slacken off securing bolts for blocks.
- Fit on cross-member, with the prongs of the front cross-member facing forwards and the prongs of the rear cross-member facing the rear, and insert the securing blocks in the rectangular hole.

- Push the front cross-member as far as the front stop and move the rear cross-member back accordingly.
- Tighten the securing bolts for the blocks with the aid of a wrench.

See the separate installation instructions for notes on mounting the various carrier systems.

Important:

Always check before use that the roof rack system is attached securely and tighten the mountings if necessary.

Note:

Cars with double-panel sunroof:
When loading the ski carrier, ensure that the bindings of the skis are supported on the rack at the front, to leave sufficient space for the raising function of the front roof.
Use the appropriate roof rack system for your BMW touring from the BMW accessories range.

Towing a trailer

Driving with a trailer always imposes more severe demands on both car and driver.

The trailer not only makes the car less manoeuvrable, but also affects its ability to climb hills and its acceleration, braking, ride and cornering behaviour.

The **trailer load limit** and the **towbar downthrust** or nose weight are shown in the section headed "Technical data"; the trailer load limit may also be stated in the car's licensing documents.

All BMW service stations will be able to inform you of the scope for boosting trailer load limits.

Towbar downthrust or nose weight is the vertical force exerted by the trailer on the ball hitch attached to the towing vehicle, and can be measured with the aid of bathroom scales.

In Germany, for instance, a minimum nose weight of 25 kg (55 lb) is laid down by law.

At trailer loads of greater than 1600 kg, the nose weight must be at least 50 kg.

Without exceeding the limit, try to make full use of the maximum permissible nose weight if possible.

When **loading the trailer**, make sure that the additional load is stowed as low and as close to the axle as possible. A low centre of gravity on the trailer increases the safety of the complete outfit when on the move.

The gross trailer weight limit and the car's trailer load limit must all be complied with; note that the limit is represented by whichever of these values is reached first.

Since the nose weight is considered part of the car's payload, it must not cause the car's gross weight limit and rear axle load limit to be exceeded. The payload is reduced by the weight of the trailer coupling, and during trailer towing also by the nose weight of the trailer.

The **trailer coupling*** with detachable ball head should be of a pattern tested and approved by BMW; like the **trailer flashing turn indicator telltale** (required by law in certain countries including the Federal Republic of Germany), it should be correctly installed by a BMW service station.

After removing the detachable ball-ended towbar, it should be kept greased so that it can be installed again without difficulty.

Note on electrical system

If a trailer (a caravan) is towed, higher power consumption must be expected. With a view to maintaining battery capacity, do not switch on electrical equipment for longer than necessary.

BMW 525i/X, 530i, 540i:

The rear lights, brake lights and rear fog lights on the trailer are protected by plug-type fuses in the car's trailer module, which is located behind the left-hand side luggage compartment or load area trim.

Before acquiring a trailer it is advisable to obtain confirmation from the manufacturer or supplier of the **effective trailer weight** and the **permitted payload**.

The **suspension rates** of your BMW (both standard and sports suspension) ensure an optimum combination of road safety, ride comfort and good roadholding for the enthusiastic driver. They are equally suitable for towing a trailer at the standard load limit (not the increased weight limit), provided that this does not occur very much more often than during the annual holiday, and the driver's approach is modified to match the more arduous task of trailer towing.

If the trailer towing hitch is factory-fitted, the car will have **trailer-towing suspension*** fitted as standard. These ratings compensate for the trailer weight and optimise road behaviour when driving without a trailer. If the trailer towing hitch is fitted subsequently, we also recommend the installation of trailer-towing suspension.

Self-levelling rear suspension* is the ideal solution for frequent trailer towing. Unless the rear axle load is exceeded, the car always returns to its designed static ride height regardless of the load carried and whether the trailer is attached or not.

BMW has not tested or approved any other suspension devices sold by the automotive accessory trade.

Note:

If a trailer tow hitch is fitted, the effect of the regenerating rear bumper system will be reduced.

The installation of a **stabilising device** is recommended, particularly with heavy trailers. BMW service stations can provide details.

If the standard **door mirror** is inadequate with the trailer attached, the law requires two outside mirrors to be fitted which enable the driver to see both rear corners of the trailer. Your BMW service station can supply suitable mirrors, including types with adjustable arms or detachable versions for driving without the trailer.

In the interests of unobstructed traffic flow and maximum road safety, the **maximum gradient** permitted at sea level is restricted to 12 % (1 in 8.3) or, with trailers of greater weight (if permitted), to 8 % (1 in 12.5).

Engine performance gradually declines at increasing altitudes. When driving in mountainous areas, it should therefore be remembered that the car's ability to pull away on steep inclines is adversely affected; in such driving conditions, the vehicle and trailer should not be driven with their maximum permitted payload.

Remember that the effect of the trailer brakes may be relatively limited, particularly when descending steep gradients. Select the next-lower gear in good time, and shift down as far as first gear (or automatic transmission speed range) if necessary to keep the outfit's speed low. Operate the foot brake only for limited periods at a time, to prevent fade.

Before starting a journey on which steep gradients are likely to be encountered, the serviceability of the trailer brakes should always be checked by an authorised service station.

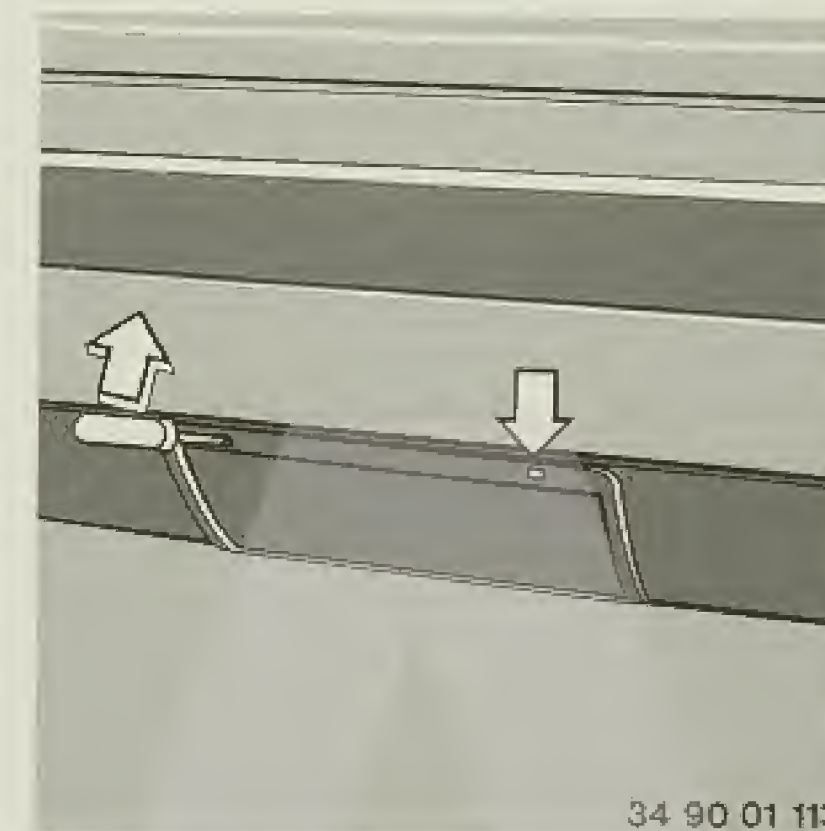
The ABS will prevent the wheels from locking. We therefore recommend brake applications in situations where the ABS will respond. Smooth, steady brake applications will yield the shortest stopping distances for the car-trailer combination, particularly on low-friction surfaces (icy roads).

The **maximum speed limit** when towing a trailer in Germany is 80 km/h (50 mile/h) on all roads. The permissible trailer load limits have been chosen to ensure optimum vehicle stability at this speed. Even if higher speed limits are authorised in some countries, you are still recommended not to exceed 80 km/h (50 mile/h) for safety reasons. Should the vehicle's progress be seriously disturbed at fairly high speeds, and the trailer begin to snake, the outfit must be stabilised immediately by applying the brakes.

Correct **tyre pressures** are of particular importance.

For the trailer, comply with the manufacturer's recommended tyre pressures.

Always check operation of the **trailer's rear lights** before starting the journey.



Trailer tow hitch cover flap

To remove, insert a screwdriver into the two apertures and press the clip down.

Cars with M Technic Sport Package*: to remove the flap, pull it down at the bottom.

After removing the flap a triangle (arrow) will be visible in the aperture, to indicate the position of the ball joint coupling head mounting.

For attaching and detaching the ball joint coupling head, see separate instructions.

Antilock brake system (ABS)

BMW's unceasing efforts to improve its cars' active safety still further have led to the development of an antilock brake system (ABS).

Whenever a brake application is made, the ABS is required to satisfy two fundamental requirements:

- a) To maintain the car's stability on varying surfaces (asphalt, concrete, mud, wet roads, snow and ice)
- b) To ensure that the car can be steered and manoeuvred in these adverse conditions.

These requirements must, however, be seen in the light of certain unavoidable accompanying factors.

Even ABS is unable to prevent the natural laws of physics and motion from acting on the car. For instance, it cannot avoid the consequences of braking when there is insufficient distance remaining from the car in front, when cornering limit speeds are exceeded or if there is a risk of aquaplaning (tyres riding up on a cushion of surface water). It remains the driver's task to judge speeds and brake applications correctly in such conditions.

The fact that a car is equipped with ABS must never tempt the driver into taking risks which could affect occupant safety and that of other road users, despite the increased safety margins this system frequently provides.

Driving a car equipped with ABS

After the engine has been started, the yellow **ABS warning light** on the instrument panel will go out.

The system itself is then in working order, but does not come into action until road speed exceeds approx. 8 km/h (5 mile/h). After this minimum control speed limit has been reached, the ABS prevents the wheels from locking when the driver applies the brakes. If the speed drops again below approx. 3 km/h (2 mile/h), the ABS ceases to operate, so that in theory the wheels could lock at the very end of a brake application, though in practice this is not critical at such a slow speed. The ABS regulating cycle is performed repeatedly within fractions of a second.

To inform the driver that his brake application has caused the ABS to come into action, a pulsating effect is noticed at the brake pedal, together with a characteristic chattering noise. This acts as a warning that grip between the tyre and the road is being lost (slippery surfaces), so that the driver can reduce speed accordingly.

ABS is capable of achieving the shortest possible braking distances in any given conditions (straight-line running or cornering, on smooth asphalt, ice, wet surface etc.).

Warning:

On roads which are firm but with a loose surface, such as gravel or snow, the braking distance with ABS in action may actually be longer than if the wheels lock. The same applies when snow chains are fitted. However, the advantages of dynamic stability and the ability to steer the car are retained.

In order to keep it fully functional, no modifications may be made to the antilock braking system. Any work on the ABS must only be carried out by authorised, skilled personnel.

Proper functioning may be impaired if different sizes of tyre are fitted (e.g. winter tyres and the spare wheel. Change back as soon as possible.)

The yellow ABS warning light on the instrument panel comes on to indicate any malfunction. The brake system then operates conventionally and with precisely the same standards of performance as on cars not equipped with ABS.

In order to prevent any multiple faults from impairing the brake system, the necessary repair work should be carried out at the next possible opportunity.

Automatic Stability plus Traction Control (ASC+T)*

As a means of ensuring improved dynamic stability, particularly when accelerating and cornering, BMW has extended its ABS system to include ASC+T, which prevents the driven wheels from spinning even if driving and road conditions are unfavourable.

The traction and vehicle locating force which the tyres can transmit to the road surface depend to a marked degree on driving style (use of the engine's power potential) and road surface condition (wet, slippery etc.). The limits imposed by these factors should not be exceeded, or else the car may become difficult to keep under control.

ASC+T is a highly responsive system which uses the ABS wheel sensors to detect wheel rotating speeds, and reduces engine power if these speeds differ.

This continuous wheelslip monitoring system identifies the risk of a wheel spinning if it is called upon to transmit too much power, and reduces engine power output and if necessary the action of the brakes on the rear wheels until reliable tyre grip is assured.

Although the driver may find this automatic reduction of engine power difficult to accept, there is no denying that when a difficult situation arises (poor road surface, sharp corner etc.), the instant response of the ASC+T system is the only way of ensuring optimum traction and acceleration.

However, even a car fitted with ASC+T is subject to the normal laws of physics, so that the driver must still avoid speeds at which tyre grip cannot be maintained or lateral forces become too high. It would be irresponsible to misuse the additional safety margin which ASC+T can provide in certain circumstances to drive at the very limit of the car's performance when this would constitute a self-evident safety risk.

The ASC+T system can be switched off and the car's driveline allowed to operate conventionally. In order to enhance traction, it is also advisable to switch it off when trying to rock the car out of deep snow or a soft surface (see "Winter operation") and when snow chains are fitted.

If not all the tyres are of the same pattern, ASC+T may react over-sensitively. Only fit tyres of the same make and tread pattern.

Multi-disc limited-slip differential *

In very unfavourable driving conditions, the conventional form of differential may be unable to transmit torque to the road without wheelslip occurring. The limited-slip differential (25 % action) greatly reduces the tendency for one driven wheel to spin.

In practice, this means improved traction when pulling away, accelerating and cornering at speed in poor driving conditions.

A car also tends to spin round its vertical axis (centre of gravity) when the power output is high or when load reversals occur on surfaces with a varying degree of grip. A good deal of skill is required to control such skidding or spinning, particularly when driving in a highly enthusiastic manner.

The limited-slip differential has the advantage of operating automatically when needed; it does not have to be engaged and disengaged by the driver.

Four-wheel drive *

Power is transmitted permanently to the four driven wheels via a transfer box which is locked electromagnetically if necessary. The locking moment required at the rear axle is regulated by the ABS, which boosts the braking pressure at whichever wheel is spinning.

The electronically controlled differential lock system acts without intervention by the driver, according to the road situation and the condition of the road surface.

In normal circumstances, the torque split between the front and rear wheels is 36 % to 64 %. When necessary, the torque flow is modified instantaneously and adapted to the driving situation.

The BMW 525iX/touring is not an off-road vehicle. Its permanent four-wheel drive should rather be considered as a means of assuring high dynamic stability and traction in all road conditions and for overcoming critical situations, for instance in severe wintry conditions or on loose surfaces.

When the brakes are applied, the effect of the differential lock is immediately cancelled to ensure that the ABS can achieve its full effect.

Care of the car

The car's high-quality paint finish is chosen not only to appeal to the owner's personal colour preferences, but also to provide maximum body protection. It consists of **several layers** for reliable corrosion-proofing; the body cavities are not only primer-coated by cataphoretic dipping, but also treated with materials specially developed for this purpose in lengthy tests. The entire floor pan is given a sprayed-on, resilient PVC coating followed by complete wax-based under-sealing.

Regular care and maintenance make a big contribution to safety and to your car's resale value.

A large number of **environmental influences** can affect the car's paintwork, some of them purely local in origin. They govern the amount of care the paintwork needs and how often it should be attended to.

Road dust and dirt, tar stains, dead insects, animal excretions (high level of alkali formation) as well as tree and plant materials (resin, pollen) all contain chemicals which, if allowed to remain on the car for any length of time, can damage the paintwork by causing patches, blisters, corrosion, flaking of the top coat etc.

In **industrial areas**, the horizontal panels of the body in particular may suffer from deposits of fly ash, lime, oily soot or substances containing sulphur dioxide ("acid rain"), as well as other less easily identified deposits. Only regular care of the paintwork can avoid damage in such circumstances.

In **coastal regions** the high salt content and humidity of the atmosphere greatly increase the risk of body panel corrosion.

In **tropical climates**, ultra-violet radiation from the sun is very strong, the air is often very humid and temperatures can exceed 40° C (104° F) in the shade. Light paint finishes may heat up to 80° C (176° F) and darker colours as high as 120° C (248° F). Prolonged exposure could cause the paint finish to develop cracks, particularly on horizontal surfaces.

In the event of **mechanical damage** caused by sand, road salt, grit etc., the paint surface may be damaged or penetrated, and corrosion may then spread across the panel under the paint.

Since the car's paintwork is exposed to so many potential environmental hazards, automobile manufacturers and paint suppliers are constantly working on further improvements to the strength and durability of modern paints.

The composition of the paints used by BMW and the manner in which they are applied are in accordance with the very latest standards in this specialised area.

If you choose to look after the car yourself, all BMW service stations can supply tried and tested Original BMW care agents.

Care of paintwork

To protect the car from the start against gradual deterioration of the paintwork in areas of high atmospheric pollution or where natural substances could damage the paint finish (industrial zones, railways, sap and resin from trees, pollen, bird droppings), it is advisable to **wash the car once a week**. In severe cases, wash the car whenever the paint finish is seen to be dirty or contaminated.

Remove spilled fuel, oil, grease or brake fluid **at once**, as they can attack the paint and change its colour.

Bird droppings should also be **removed without delay**, or they will damage the paintwork.

A new BMW can be put through an automatic car wash, or washed by hand, as soon as it is used on the road.

In automatic car washes, make sure that any projecting body elements (e.g. spoilers) cannot become damaged. If necessary, point them out to the person in charge of the car wash before using it.

Dead insects should be soaked and wiped off **before** the main car wash.

Washing the car

Do not wash the car if the engine compartment lid is still hot, or if the car has been standing in strong sunlight, or else patches may form on the paint surface.

When using an **automatic car wash**, try to choose one without excessive brush pressure and with an ample supply of rinsing water. Most modern car washes satisfy these requirements. However, the areas not fully reached by the automatic car wash – door sills, panel folds and seams on doors and lids etc. – should be cleaned by hand.

During the cold season of the year in particular it is advisable for the car to be washed more frequently, since heavy dirt deposits and salt from wet roads are more difficult to remove and will damage the entire car if left on too long.

If the car is **washed by hand**, first soften the dirt deposits on the paint with a fine water spray, and rinse them off. Do not spray water directly into the air inlets or outlets of the heating/ventilation system.

After this, wash the upper part of the body with a sponge, wash leather glove or similar, using plenty of no more than lukewarm water, and starting with the roof. Rinse out the sponge frequently.

Wash the lower part of the body and the wheels last of all, if possible keeping a separate sponge just for these areas.

After washing, rinse the car down again thoroughly with the hose and dry it with a clean chamois leather to prevent discoloured patches where the water was not removed.

To protect the paintwork, a paint-care product* can be added to the water used for washing the car.

If washing with water alone is insufficient, a car shampoo or similar cleanser* which restores the fats content of the paintwork can be used, in the concentration stated on the pack. After this, rinse down with plenty of water.

Note: after washing, the car's brakes may be wet and therefore less effective in action. Apply them briefly if the car is driven immediately afterward, to dry the discs.

Any local dirt patches or other contamination of the paint surface can best be seen after the car has been washed. Remove them as soon as possible with a clean cloth or wadding soaked in alcohol spirit or cleaning-grade petrol (gasoline). Eliminate tar stains with a special tar remover*.

Polish the paintwork at these points to restore its appearance and protect it.

Please use only **paint care products** containing carnauba or synthetic waxes.

It is quite easy to decide when the car's paintwork needs polishing or preservative treatment: water no longer forms large round droplets on the painted surfaces. Depending on use of the car, this may arise after some 3 to 4 months. Do not fail to carry out the necessary protective treatment as soon as it becomes necessary.

If the paintwork tends to lose its high gloss as a result of insufficient care, a suitable **polish*** must be applied. **Paint cleaner*** is needed if the finish is already matt or weathered. An abrasive **cutting agent** or **paint restorer*** should only be used in severe or obstinate cases. Remember that all polishes, cleaners and paint restorers act by removing a layer of paint to expose paint which is still in good condition. Only if the resulting new paint surface is most carefully protected will the overall brilliance of your car's paintwork be regained.

After care of the car's paintwork, remove traces of the products used from the windows with a suitable glass cleaner*.

Minor paint damage can be touched in with either a BMW paint spray aerosol*, a BMW paint stick* or BMW paint film*. The correct colour designation is stated on a label close to the maker's plate, and also on the first page of the Service Booklet.

Damage caused by flying stones, scratches etc. must be touched in without delay, to prevent rust from forming.

If damaged areas of paintwork have already started to rust, use a wire brush to clean them up, and apply a rust converter (protect the eyes and skin). Allow a few minutes for it to take effect, then rinse off with water and dry thoroughly. Apply the primer and allow to dry, then apply the top coat. After a few days, polish the repaired area and apply a paint preservative.

More extensive paint damage should be professionally repaired by the BMW service station, which uses only Original BMW-approved materials in accordance with the manufacturer's instructions.

Important note:

If a tarpaulin or similar cover is used to protect the car against the weather, moisture condensate may collect, particularly in the case of plastic sheet, and cause the plasticisers to diffuse out of the paint. There is also a risk of scratching the paint surface. It is far better to protect your BMW against ultra-violet rays from bright sunlight and against rainfall etc. by giving it the full body care treatment described here. Ideally, in countries where the sun is extremely hot and powerful, a canvas sunsheet should be stretched 50 to 80 cm (1 – 2 ft) above the car.

Annual cleaning and protection or treatment of the engine compartment, underbody, axles and other mechanical assemblies can be carried out with special equipment by a BMW service station. This not only **reduces the risk of serious corrosion** to a minimum, but avoids short-circuits or current leakages and reveals other leaks before they become too severe. This treatment is particularly important at the end of the winter season.

Chromium-plated and polished metal parts – bumpers, trim strips, wheel trims etc. – should be cleaned regularly with water to which a car shampoo* can be added if required. Do not neglect this treatment in winter if salt is spread on the roads.

Alloy wheels should be treated with a special wheel-rim cleanser*, particularly during the cold season. Do not use aggressive-action products containing acids, strong alkalis or abrasives. Alloy wheels should not be cleaned with a steam jet at a temperature higher than 60° C (140° F).

The **inside surfaces of windows and mirror glasses** can be cleaned and smearing avoided with a special glass cleaner*. Never clean mirror glasses with polishing pastes or abrasive (quartz) cleansers.

Plastic components, leatherette upholstery, roof linings, light glasses and items sprayed matt black should be cleaned with water to which a car shampoo* may be added. Do not allow the roof lining to become wet right through. If necessary, treat plastic components with a suitable cleanser for synthetic materials*. Never use solvents such as nitro thinners, cold cleaning agents, fuel etc.

Rubber components should only be cleaned with water or treated with a rubber cleanser* or silicone spray*.

Clean the **windscreen wiper blades** with soapy water. The wiper blades should be renewed twice a year, before and after the winter season.

Seat belts should only be cleaned with a weak soap and water solution, without removing them from the car. Never attempt chemical or dry cleaning, or the belt fabric may be damaged.

Automatic-reel seat belts should never be allowed to retract while still wet. Dirt on the belts could prevent them from retracting correctly, thus constituting a safety risk.

Floor mats and carpets* can be cleaned with an interior cleanser* if very dirty. Floor mats can be removed for more thorough cleaning of the car's interior.

* Obtainable from BMW service stations

* Obtainable from BMW service stations.



Care of upholstery fabrics

If certain areas of the seats acquire an unwanted gloss after heavy use as a result of heat and moisture, they should be brushed "against the pile" with a slightly moistened brush.

The pile of velour material tends to lie flat in use: as with many furnishing fabrics and clothing materials, this is unavoidable and does not detract from its quality.

Fluff on the upholstery fabrics and abraded textile or leather particles are best removed with a suitable fluff brush* or burr-pile brush*. Clean off stains or large-area marks at once with lukewarm water, car-interior cleaner*, stain remover* or cleaning-grade fuel. Afterwards, brush the fabric to restore its pile.

Seat upholstery fabrics can acquire a **static electrical charge**, particularly when atmospheric humidity is low. Persons touching metal parts of the body **after** leaving the car may then receive an unpleasant but harmless electric shock. Remember to touch an exposed metal part of the car **while getting out**: this will disperse the electric charge without its being noticed.

Antistatic products which largely prevent the build-up of static electricity can be applied if desired.

If the car is parked for a long time in bright sunlight, it is advisable to cover the seats to prevent the colours from fading.

Care of leather

The **upholstery leather*** used in BMW cars is a high-grade natural product treated by the latest processes. If carefully looked after, it will retain its high quality for many years.

Like all natural products, however, due consideration must be given to its properties, to certain limitations in use and to the special care which leather needs.

Regular cleaning and care are essential, since dust and road dirt penetrate the pores and creases, and cause the surface to wear away and become brittle.

If the car is parked for a long time in bright sunlight, it is advisable to cover leather surfaces to prevent the colours from fading, or cover the windows.

Moisten a cotton or woollen cloth slightly with water and clean the leather surface without allowing the seams to become wet through. After drying, the leather should be rubbed down with a soft, clean cloth.

Very dirty areas on leather upholstery can be cleaned with a mild detergent (as sold for woollens) containing no brightening agents. Use 2 tablespoons to one litre (1 3/4 Imp. pints) of water. Dab oil or grease spots carefully with cleaning-grade fuel, but do not rub.

To maintain the condition of the leather after cleaning, and avoid the build-up of a static electrical charge, apply leather care agent*. Shake well and apply a thin coating with a soft cloth. Allow to penetrate and dry, then rub with a clean, soft cloth.

It is advisable to repeat this treatment every 6 months if the leather is exposed to normal use.

* Obtainable from BMW service stations

Water buffalo leather*

Use only a special leather spray* for regular care, according to the manufacturer's instructions.

Wipe off drops of water immediately, and try to avoid wetting the surface severely (soaking wet clothing, when cleaning etc.).

To remove severe dirt marks, use a mild detergent without brightening agent (2 tablespoons to 1 litre (1 3/4 pints) of water).

Water buffalo leather is left in its natural state and may therefore exhibit areas of slightly varying colour. Natural features such as scars caused by scratches and insect bites, folds in the animal's skin etc. are typical of this material, which acquires a certain patina in use. When new, water buffalo leather may mark light-coloured clothing slightly if moisture is present.

* Obtainable from BMW service stations

Engine data, fuel consumption

		BMW 518i/touring	BMW 520i/touring	BMW 525iX/touring
Displacement	cm ³	1796	1991	2494
Number of cylinders		4	6	6
Max. output	kW	85	110	141
	bhp	115	150	192
– at engine speed	1/min	5500	5900	5900
Max. torque	Nm	168	190	250
– at engine speed	1/min	3900	4200	4200
Compression ratio	ε	9.7	11.0	10.5
Stroke/bore	mm	81/84	66/80	75/84
Mixture preparation	Digital Motor Electronics			

		BMW 518i		BMW 518i touring		BMW 520i		BMW 520i touring	
Fuel consumption DIN 70 030/1		5-speed	Auto-	5-speed		5-speed	Auto-	5-speed	Auto-
ECE standard test method		gearbox	matic	gearbox		gearbox	matic	gearbox	matic
At 90 km/h	l/100 km	6.0	6.2	6.1	6.9	6.5	7.1	6.5	
(56 mile/h)	(Imp. mile/gal)	47.1	45.6	46.3	40.9	43.5	39.8	43.5	
At 120 km/h	l/100 km	7.9	8.1	8.1	8.3	8.0	8.8	8.3	
(75 mile/h)	(Imp. mile/gal)	35.8	34.9	34.9	34.0	35.3	32.1	34.0	
Urban driving cycle	l/100 km	10.5	11.5	10.5	11.6	12.5	11.8	12.5	
	(Imp. mile/gal)	26.9	24.6	26.9	24.4	22.6	23.9	22.6	
Average	l/100 km	8.1	8.6	8.2	8.9	9.0	9.2	9.1	
	(Imp. mile/gal)	34.9	32.9	34.5	31.7	31.4	30.7	31.0	

		BMW 525i		BMW 525i touring		BMW 525iX		BMW 525iX touring	
Fuel consumption DIN 70 030/1		5-speed	Auto-	5-speed		5-speed	Auto-	5-speed	Auto-
ECE standard test method		gearbox	matic	gearbox		gearbox	matic	gearbox	matic
At 90 km/h	l/100 km	6.8	6.2	7.1	6.7	7.4	6.8	7.7	7.1
(56 mile/h)	(Imp. mile/gal)	41.5	45.6	39.8	42.2	38.2	41.5	36.7	39.8
At 120 km/h	l/100 km	8.2	7.7	8.7	8.4	9.0	8.5	9.4	8.9
(75 mile/h)	(Imp. mile/gal)	34.5	36.7	32.5	33.6	31.4	33.2	30.1	31.7
Urban driving cycle	l/100 km	12.1	12.6	12.2	13.1	12.4	13.1	12.7	13.3
	(Imp. mile/gal)	23.3	22.4	23.1	21.6	22.8	21.6	22.2	21.2
Average	l/100 km	9.0	8.8	9.3	9.4	9.6	9.5	9.9	9.8
	(Imp. mile/gal)	31.4	32.1	30.4	30.1	29.4	29.7	28.5	28.8

BMW 525iX: A performance test may only be carried out on a suitable roller dynamometer.

Engine data, fuel consumption

		BMW 530i/touring	BMW 540i/touring	BMW 525td/touring	BMW 525tds/touring
Displacement	cm ³	2997	3982	2498	2498
Number of cylinders		8	8	6	6
Max. output	kW	160	210	85	105
	bhp	218	286	115	143
– at engine speed	1/min	5800	5800	4800	4800
Max torque	Nm	290	400	222	260
Max torque	1/min	4500	4500	1900	2200
Compression ratio	ε	10.5	10.0	22.0	22.0
Stroke/bore	mm	67.6/84	80/89	82.8/80	82.8/80
Mixture preparation	Digital Motor Electronics		Digital Diesel Electronics – (DDE)		

		BMW 530i		BMW 530i touring		BMW 540i		BMW 540i touring	
Fuel consumption		5-speed	Auto-	5-speed		6-speed	Auto-	6-speed	Auto-
DIN 70 030/1 ECE		gearbox	matic	gearbox		gearbox	matic	gearbox	matic
At 90 km/h	l/100 km	8.0	7.2	8.6	7.7	7.6	7.8	7.8	8.1
(56 mile/h)	(Imp. mile/gal)	35.5	39.2	32.8	36.7	37.2	36.2	36.2	34.9
At 120 km/h	l/100 km	9.8	8.9	10.6	9.7	9.6	9.6	10.0	10.1
(75 mile/h)	(Imp. mile/gal)	28.8	31.7	26.6	29.1	29.4	29.4	28.2	28.0
Urban driving cycle	l/100 km	14.6	15.5	15.2	15.6	16.9	17.2	17.1	17.3
	(Imp. mile/gal)	19.3	18.2	18.6	18.1	16.7	16.4	16.5	16.3
Average	l/100 km	10.8	10.5	11.5	11.0	11.4	11.5	11.6	11.8
	(Imp. mile/gal)	26.2	26.9	24.6	25.7	24.8	24.6	24.4	23.9

		BMW 525td		BMW 525td touring		BMW 525tds		BMW 525tds touring	
Fuel consumption (DIN 70 030/1		5-speed	Auto-	5-speed		5-speed	Auto-	5-speed	Auto-
ECE standard test method)		gearbox	matic	gearbox		gearbox	matic	gearbox	matic
At 90 km/h	l/100 km	5.2	5.2	5.5	5.4	5.1	5.2	5.3	5.3
(56 mile/h)	(Imp. mile/gal)	54.3	54.3	51.4	52.3	55.4	54.3	53.3	53.3
At 120 km/h	l/100 km	6.9	7.0	7.4	7.2	6.9	6.7	7.0	6.8
(75 mile/h)	(Imp. mile/gal)	40.9	40.4	38.2	39.2	40.9	42.2	40.4	41.5
Urban driving cycle	l/100 km	9.3	9.8	9.8	10.3	9.1	9.8	9.2	10.2
	(Imp. mile/gal)	30.4	28.8	28.8	27.4	31.0	28.8	30.7	27.7
Average	l/100 km	7.1	7.3	7.6	7.6	7.0	7.2	7.2	7.4
	(Imp. mile/gal)	39.8	38.7	37.2	37.2	40.4	39.2	39.2	38.2

Dimensions and weights

		BMW 518i/tour.	BMW 520i/tour.	BMW 525i/tour.	BMW 525iX/tour.
Length	mm		4720 (185.8 in)		
Width	mm		7151 (68.9 in)		
Height	mm		1412/1417 ¹⁾ (55.6/55.8 in)		1421 (55.9 in)
Wheelbase	mm		2761 (108.7 in)		
Front overhang	mm		846 (33.3 in)		
Rear overhang	mm		1113 (43.8 in)		
Front track	mm		1470 (57.9 in)		1468 (57.8 in)
Rear track	mm		1495 (58.9 in)		
Min. turning circle (wheels)	m		10.2 (33 ft 6 in)		
Min. turning circle (overall)	m		11.0 (36 ft 1 in)		

		BMW 530i/tour.	BMW 540i/tour.	BMW 525td/tour.	BMW 525tds/tour.
Length	mm		4720 (185.8 in)		
Width	mm		1751 (68.9 in)		
Height	mm		1412/1417 ¹⁾ (55.6/55.8 in)		
Wheelbase	mm		2761 (108.7 in)		
Front overhang	mm		846 (33.3 in)		
Rear overhang	mm		1113 (43.8 in)		
Front track	mm		1470 (57.9 in)		
Rear track	mm		1495 (58.9 in)		
Min. turning circle (wheels)	m		10.2 (33 ft 6 in)		
Min. turning circle (overall)	m		11.0 (36 ft 1 in)		

¹⁾ BMW touring

Weights

		BMW 518i	BMW 520i	BMW 525i	BMW 525iX
Unladen weight (ready to drive, full tank, without special equipment)	kg	1360 (2998 lb)	1445 (3186 lb)	1480 (3263 lb)	1570 (3461 lb)
	kg	1400 (3086 lb)	1480 (3263 lb)	1515 (3340 lb)	1605 (3538 lb)
Gross weight limit – with automatic transmission	kg	1870 (4123 lb)	1955 (4310 lb)	1990 (4387 lb)	2080 (4586 lb)
	kg	1910 (4211 lb)	1990 (4387 lb)	2025 (4464 lb)	2115 (4663 lb)
Front axle load limit	kg	910 (2006 lb)	950 (2094 lb)	970 (2138 lb)	1030 (2271 lb)
Rear axle load limit	kg	1085 (2392 lb)	1100 (2425 lb)	1135 (2502 lb)	1160 (2557 lb)
Trailer load limits (specified by factory or as laid down by law in Germany) ¹⁾					
unbraked	kg	700 (1543 lb)	700 (1543 lb)	700 (1543 lb)	750 (1653 lb)
braked, max. gradient 12 % (1 in 8.3)	kg	1500 (3307 lb)	1500/1700 ²⁾ (3307/3748 lb)	1800 (3968 lb)	1800 (3968 lb)
braked, max. gradient 8 % (1 in 12.5)	kg	1600 (3528 lb)	1700 (3748 lb)	1800 (3968 lb)	1800 (3968 lb)
Max. towbar downthrust			75 kg (165 lb)		
Max. roof load (do not exceed max. axle loads or gross weight limit when carrying loads on roof)			100 kg (220 lb)		
Luggage capacity acc. to VDA test	Litres		460 (16.2 cu. ft)		

Different values may apply to national-market specifications and special models. Please always follow the data in the vehicle papers or on the manufacturer's type plate.

¹⁾ Please consult a BMW service station with regard to higher trailer load limits. Different values may apply to national-market versions.
²⁾ With automatic transmission

Weights

		BMW 530i	BMW 540i	BMW 525td	BMW 525tds
Unladen weight (ready to drive, full tank, without special equipment)	kg	1565 (3450 lb)	1605 (3531 lb)	1465 (3230 lb)	1480 (3263 lb)
	– with automatic transmission	1595 (3516 lb)	1650 (3638 lb)	1500 (3309 lb)	1515 (3340 lb)
Gross weight limit – with automatic transmission	kg	2075 (4575 lb)	2115 (4653 lb)	1975 (4354 lb)	1990 (4387 lb)
	kg	2105 (4641 lb)	2160 (4762 lb)	2010 (4431 lb)	2025 (4664 lb)
Front axle load limit	kg	1030 (2271 lb)	1060 (2337 lb)	965 (2127 lb)	975 (2149 lb)
Rear axle load limit	kg	1160 (2557 lb)	1180 (2601 lb)	1130 (2491 lb)	1135 (2502 lb)
Trailer load limits (specified by factory or as laid down by law in Germany ¹⁾)					
unbraked	kg	750 (1653 lb)	750 (1653 lb)	700 (1543 lb)	700 (1543 lb)
brake, max. gradient 12 % (1 in 8.3)	kg	1900 (4180 lb)	1900 (4180 lb)	1800 (3968 lb)	1800 (3968 lb) ²⁾
brake, max. gradient 8 % (1 in 12.5)	kg	1900 (4180 lb)	1900 (4180 lb)	1800 (3968 lb)	1800 (3968 lb) ²⁾
Max. towbar downthrust		75 kg (165 lb)			
Max. roof load (do not exceed max. axle loads or gross weight limit when carrying loads on roof)		100 kg (220 lb)			
Luggage capacity acc. to VDA test	Litres	460 (16.2 cu. ft)			

Different values may apply to national-market specifications and special models. Please always follow the data in the vehicle papers or on the manufacturer's type plate.

¹⁾ Please consult a BMW service station with regard to higher trailer load limits. Different values may apply to national-market versions.

²⁾ An auxiliary fan must be fitted on vehicles with automatic transmission if trailer loads in excess of 1000 kg (2205 lb) are towed.

Weights – touring models

		BMW 518i	BMW 520i	BMW 525i	BMW 525iX
Unladen weight (ready to drive, full tank, without special equipment)	kg	1445 (3186 lb)	1530 (3373 lb)	1575 (3472 lb)	1650 (3638 lb)
	– with automatic transmission	– (–)	1565 (3450 lb)	1610 (3549 lb)	1685 (3715 lb)
Gross weight limit – with automatic transmission	kg	2015 (4442 lb)	2100/2155 ¹⁾ (4630/4751 lb) ¹⁾	2125 (4685 lb)	2200 (4850 lb)
	kg	– (–)	2135/2190 ¹⁾ (4704/4828 lb) ¹⁾	2160 (4762 lb)	2235 (4927 lb)
Front axle load limit	kg	910 (2006 lb)	950 (2094 lb)	970 (2138 lb)	1030 (2271 lb)
Rear axle load limit	kg	1225 (2701 lb)	1260/1300 ¹⁾ (2778/2866 lb) ¹⁾	1270 (2800 lb)	1300 (2866 lb)
Trailer load limits (specified by factory or as laid down by law in Germany ²⁾)					
unbraked	kg	750 (1653 lb)	750 (1653 lb)	750 (1653 lb)	750 (1653 lb)
braked, max. gradient 12 % (1 in 8.3)	kg	1500 (3307 lb)	1600/1700 ³⁾ (3527/3748 lb) ³⁾	1800/1900 ³⁾ (3968/4189 lb) ³⁾	1800/1900 ³⁾ (3968/4189 lb) ³⁾
braked, max. gradient 8 % (1 in 12.5)	kg	1600 (3527 lb)	1700 (3748 lb)	1900 (4189 lb)	1900 (4189 lb)
Max. towbar downthrust		75 kg (165 lb)			
Max. roof load (do not exceed max. axle loads or gross weight limit when carrying loads on roof)		100 kg (220 lb)			
Luggage capacity acc. to VDA test	Litres	460-1430 (16.2–50.5 cu. ft)			

Different values may apply to national-market specifications and special models. Please always follow the data in the vehicle papers or on the manufacturer's type plate.

¹⁾ Only in conjunction with BMW self-levelling suspension.

²⁾ Please consult a BMW service station with regard to higher trailer load limits. Different values may apply to national-market versions.

³⁾ With automatic transmission

Weights – touring models

		BMW 530i	BMW 540i	BMW 525td	BMW 525tds
Unladen weight (ready to drive, full tank, without special equipment)	kg	1630 (3593 lb)	1680 (3704 lb)	1545 (3406 lb)	1560 (3439 lb)
	– with automatic transmission	kg	1660 (3660 lb)	1725 (3803 lb)	1580 (3438 lb)
Gross weight limit	kg	2180 (4806 lb)	2230 (4916 lb)	2095/2145 ¹⁾	2110/2160 ¹⁾
	– with automatic transmission	kg	2210 (4872 lb)	2275 (5015 lb)	(4619/4729 lb) ¹⁾ 2130/2180 ¹⁾ (4696/4806 lb) ¹⁾
Front axle load limit	kg	1030 (2271 lb)	1050 (2315 lb)	960/965 ¹⁾ (2116/2127 lb) ¹⁾⁹	970 (2138 lb)
Rear axle load limit	kg	1300 (2866 lb)	1280 (2822 lb)	1265/1300 ¹⁾ (2789/2866 lb) ¹⁾	1270/1300 ¹⁾ (2800/2866 lb) ¹⁾
Trailer load limits (specified by factory or as laid down by law in Germany) ²⁾					
unbraked	kg	750 (1653 lb)	750 (1653 lb)	750 (1653 lb)	750 (1653 lb)
braked, max. gradient 12 % (1 in 8.3)	kg	1900 (4180 lb)	1900 (4180 lb)	1900 (4180 lb)	1900 (4180 lb) ³⁾
braked, max. gradient 8 % (1 in 12.5)	kg	1900 (4180 lb)	1900 (4180 lb)	1900 (4180 lb)	1900 (4180 lb) ³⁾
Max. towbar downthrust	kg	75 (165 lb)			
Max. roof load	kg	100 (220 lb)			
(do not exceed max. axle loads or gross weight limit when carrying loads on roof)					
Luggage capacity acc. to VDA test	Litres	460–1430 (162–50.5 cu. ft)			

Different values may apply to national-market specifications and special models. Please always follow the data in the vehicle papers or on the manufacturer's type plate.

¹⁾ Only in conjunction with BMW self-levelling suspension.
²⁾ Please consult a BMW service station with regard to higher trailer load limits. Different values may apply to national-market versions.
³⁾ Cars with automatic transmission: An auxiliary fan must be fitted if trailer loads in excess of 1000 kg (2205 lb) are towed.

Performance

			BMW 518i	BMW 518i tour.	BMW 520i	BMW 520i tour.
Top speed	km/h	(mile/h)	198 (123)	192 (119)	211 (131)	205 (127)
	– with automatic transmission		192 (119)	–	207 (129)	202 (126)
Acceleration	km/h	mile/h	s	s	s	s
	0– 50	0–31	4.0	4.2	3.4	3.4
	0– 80	0–50	8.4	8.8	6.7	7.4
	0–100	0–62	12.3/13.7*	13.2	10.6/11.7*	11.3/12.4*
	0–120	0–75	17.2	18.4	14.2	15.4
80–120 km/h (50–75 mile/h in 4th gear)			11.8	13.2	11.3	11.6
Standing-start kilometre			33.5/34.9*	34.3	31.5/32.9*	32.3/33.7*

			BMW 525i	BMW 525i tour.	BMW 525iX	BMW 525iX tour.
Top speed	km/h	(mile/h)	230 (143)	221 (137)	220 (137)	215 (134)
	– with automatic transmission		225 (140)	218 (135)	217 (135)	211 (131)
Acceleration	km/h	mile/h	s	s	s	s
	0– 50	0–31	2.6	2.9	3.0	3.1
	0– 80	0–50	5.8	6.2	6.4	6.7
	0–100	0–62	8.6/9.5*	9.2/9.9*	9.5/10.3*	10.0/10.9*
	0–120	0–75	11.8	12.6	13.0	13.6
80–120 km/h (50–75 mile/h) in 4th gear			9.2	10.0	9.7	10.5
Standing-start kilometre			29.2/30.3*	29.9/31.0*	30.3/31.4*	30.8/32.1*

* with automatic transmission

Performance

			BMW 530i	BMW 530i tour.	BMW 540i	BMW 540i tour.
Top speed	km/h	(mile/h)	235 (146)	227 (141)	250 ¹⁾ (155) ¹⁾	250 ¹⁾ (155) ¹⁾
– with automatic transmission			232 (144)	225 (140)	250 ¹⁾ (155) ¹⁾	250 ¹⁾ (155) ¹⁾
Acceleration	km/h	mile/h	s	s	s	s
	0– 50	0–31	2.7	2.6	2.3	2.4
	0– 80	0–50	5.6	5.6	4.7	4.8
	0–100	0–62	7.7/8.8*	8.3/9.0*	6.4/6.8*	6.4/7.0*
	0–120	0–75	11.0	11.2	9.0	9.0
	80–120 km/h (50–75 mile/h in 4th gear)		8.9	8.8	6.9	7.2
Standing-start kilometre			28.4/29.3*	28.8/29.8*	26.3/26.8*	26.4/27.2*
				¹⁾ governed		

			BMW 525td	BMW 525td tour.	BMW 525tds	BMW 525tds tour.
Top speed	km/h	(mile/h)	194 (121)	188 (117)	207 (129)	202 (126)
– with automatic transmission			190 (118)	183 (114)	205 (127)	200 (124)
Acceleration	km/h	mile/h	s	s	s	s
	0– 50	0–31	4.2	4.4	3.6	3.7
	0– 80	0–50	8.8	9.2	7.5	7.8
	0–100	0–62	12.9/13.9*	13.7/14.7*	11.0/11.6*	11.6/12.2*
	0–120	0–75	18.2	19.2	15.0	16.0
	80–120 km/h (50–75 mile/h) in 4th gear		12.3	12.9	10.1	11.1
Standing-start kilometre			34.2/35.2*	34.9/36.0*	32.1/33.0*	32.8/33.7*

* with automatic transmission

Note: engine and road performance are measured according to the appropriate DIN standard (with the vehicle to standard equipment specification). Permissible deviations are also taken into account.

Additional equipment or optional extras can have a significant effect on consumption and performance figures, since the car's weight and drag coefficient are usually altered (roof rack, wider tyres, additional mirrors etc.).

Technical data

Gear ratios

5- or 6-speed gearbox	518i	520i	525i/X 530i	540i	525td/ tds
1st	5.10	4.23	4.20	4.23	5.09
2nd	2.77	2.52	2.49	2.51	2.80
3rd	1.72	1.67	1.67	1.67	1.76
4th	1.22	1.22	1.24	1.23	1.25
5th	1.00	1.00	1.00	1.00	1.00
6th	–	–	–	0.83	–
Rev.	4.45	4.04	3.89	3.75	4.71

Automatic transmission

	518i	520i 525i/X 530i 525tds	540i	525td
1st	2.40	3.67	3.55	2.86
2nd	1.47	2.00	2.24	1.62
3rd	1.00	1.41	1.54	1.00
4th	0.72	1.00	1.00	0.72
5th	–	0.74	0.79	
Rev.	2.00	4.10	3.68	2.00

Electrical system

Battery

BMW 518i	12 V, 50 Ah
(in luggage compartment)	
BMW 520i, 525i/X	12 V, 65 Ah
BMW 530i, 540i, 525td/tds	12 V, 85 Ah
(beneath rear seat)	
2nd battery* in luggage compartment	12 V, 25 Ah

Firing order

BMW 518i	1–3–4–2
BMW 520i, 525i/X, 525td/tds	1–5–3–6–2–4
BMW 530i, 540i	1–5–4–8–6–3–7–2

Ignition timing

On cars equipped with Digital Motor Electronics, ignition timing is pre-programmed and cannot be adjusted.

Alternator

BMW 518i, 520i, 525 i/X	80 A, 1120 W
BMW 525td/tds	95 A, 1330 W
BMW 530i, 540i	100 A, 1400 W
BMW 525iA, 525iXA, 530iA, 540iA	140 A, 1960 W
with built-in voltage regulator.	

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Note: for **items in bold type**, the Check
Control displays "OWNER'S HANDBOOK".

Filling capacities	Litres (Imp. units)	Notes
Fuel tank	app. 80 (app. 17.6 gal)	Fuel grade: see Page 4
Windscreen washer	app. 2.5 (4.5 pints) – BMW 518i, 520i, 530i, 540i app. 3.2 (5.8 pints) – BMW 525i/iX, 525td/tds	For details, see Page 89
in conjunction with headlight and fog light cleaning system	app. 8.5 (15.0 pints) – BMW 518i, 520i, 525i/iX app. 8.0 (14.1 pints) – BMW 525td/tds app. 7.5 (13.2 pints) – BMW 530i, 540i app. 1.0 (1.8 pints)	
Intensive cleaning system	app. 1.0 (1.8 pints)	
Rear-window cleaning system	app. 2.5 (4.4 pints)	
Cooling system including heater	6.0 (10.6 pints) – BMW 518i 10.5 (18.5 pints) – BMW 520i, 525i/iX 11.0 (19.4 pints) – BMW 518i, 520i, 525i/iX with air conditioning 12.5 (22.0 pints) – BMW 530i, 540i 9.75 (17.2 pints) – BMW 525td/tds	For details, see Page 88
Engine with oil filter renewal	4.0 (7.0 pints) – BMW 518i 5.75 (10.1 pints) – BMW 520i, 525i 6.50 (11.4 pints) – BMW 525iX 7.50 (13.2 pints) – BMW 530i, 540i 6.75 (11.9 pints) – BMW 525td/tds	Brand-name HD oil for spark-ignition engines (for diesel engines on BMW 525td/tds); see Page 85 for oil grades
Gearbox (manual)	1.00 (1.8 pints) – BMW 518i, 520i 1.20 (2.1 pints) – BMW 525i/iX, 525td/tds 1.25 (2.2 pints) – BMW 530i 1.75 (3.1 pints) – BMW 540i	ATF*
Transfer box	0.55 (1.0 pints) – BMW 525iX	
Automatic transmission	3.0 (5.3 pints) (BMW 540i: lifetime oil filling, no oil changes required)	ATF* Except during Inspections, no oil (ATF) level check is scheduled to avoid the risk of incorrect filling. In unusual circumstances, please consult your BMW service station.
Final drive (rear axle)	1.7 (3.0 pints) – BMW 518i, 520i, 525i/iX, 530i, 525td/tds 1.9 (3.3 pints) – BMW 540i	Brand-name hypoid gear oil*
Final drive (front axle)	0.7 (1.2 pints) – BMW 525iX	

* Authorised BMW service stations know the correct grades

For your safety – check tyre pressures regularly

Incorrect tyre pressures can impair the car's stability or lead to tyre damage, which in turn could result in an accident.

Tyre pressures in bar (gauge pressure) when cold (at ambient temperature); values in brackets = lb/in² (psi).

Note: as the tyres become hot (e.g. after fast main-road driving), pressure in them rises by approx. 0.3 bar (approx. 4.0 lb/in²). For every change in temperature of 10° C, tyre pressure varies by 0.1 bar (1.4 lb/in²).



Note:

BMW 518i, 525td: the tyre speed code letter 'H' is permitted instead of 'V' for summer tyres.

Note:

Instead of all the ZR tyres stated here, tyres with speed code letter 'W' are permitted if they are of the same authorised make and size, and with at least the equivalent load index (LI).

Exception: BMW 540i/touring with 235/45 ZR 17 front tyres and 255/40 ZR 17 rear tyres.

BMW model	Radial-ply tyres (tubeless)	max. 			
518i 520i 525td 525tds	205/65 R 15 94 V 225/60 R 15 96 V 225/55 R 16 95 V TD 230/55 ZR 390	2.0 (28)	2.1 (30)	2.2 (31)	2.7 (38)
	235/45 ZR 17 255/40 ZR 17	2.0 (28) – (–)	2.1 (30) 2.1 (30)	2.2 (31) – (–)	2.7 (38) 2.7 (38)
	195/65 R 15 91 V ¹⁾ 225/60 R 15 96 Q/T/H M+S 225/55 R 16 95 Q/T/H M+S TD 230/55 R 390 95 H M+S	2.0 (28)	2.3 (33)	2.4 (34)	2.9 (41)
	195/65 R 15 91 Q/T/H ¹⁾ M+S 205/65 R 15 94 Q/T/H M+S	2.2 (31)	2.5 (36)	2.6 (37)	3.1 (44)
525i	205/65 R 15 94 V 225/60 R 15 96 V 225/55 R 16 95 V TD 230/55 ZR 390	2.0 (28)	2.3 (33)	2.4 (34)	2.9 (41)
	235/45 ZR 17 255/40 ZR 17	2.0 (28) – (–)	2.3 (33) 2.3 (33)	2.4 (34) – (–)	2.9 (41) 2.9 (41)
	195/65 R 15 91 Q/T/H M+S 205/65 R 15 94 Q/T/H M+S 225/60 R 15 96 Q/T/H M+S 225/55 R 16 95 Q/T/H M+S TD 230/55 R 390 95 H M+S	2.2 (31)	2.5 (36)	2.6 (37)	3.1 (44)
	225/55 R 16 95 V 225/55 R 16 95 Q/T/H M+S	2.0 (28) 2.2 (31)	2.3 (33) 2.5 (36)	2.4 (34) 2.6 (37)	2.9 (41) 3.1 (44)

¹⁾ Tyre not for BMW 525tds

V-belts

BMW 518i

Alternator, coolant pump, power steering
Ribbed, 6 PK x 1660

Air conditioning compressor
Ribbed, 4 PK x 889

BMW 520i, 525i/X

Alternator, coolant pump, power steering
Ribbed, 6 K x 1560

Air conditioning compressor
Ribbed, 5 K x 890

BMW 530i, 540i

Alternator, coolant pump, power steering
Ribbed, 7 K x 1605



Air conditioning compressor
Ribbed, 5 K x 980

BMW 525td/tds



Alternator, coolant pump, power steering
Ribbed, 5 PK x 1815

Air conditioning compressor
Ribbed, 4 PK x 778

Tyre pressure (continued)

BMW model	Radial-ply tyres (tubeless)	max. 			
530i 540i	225/60 ZR 15 225/55 ZR 16 TD 230/55 ZR 390 205/65 R 15 94 Q/T M+S 225/60 R 15 96 Q/T/H M+S 225/55 R 16 95 Q/T/H M+S TD 230/55 R 390 95 H M+S	530i: 2.0 (28) 540i: 2.2 (31)	530i: 2.4 (34) 540i: 2.5 (36)	2.5 (36)	3.1 (44)
	235/45 ZR 17 255/40 ZR 17	2.2 (31) – (–)	2.6 (37) 2.6 (37)	2.7 (38) – (–)	3.2 (46) 3.2 (46)
540i	235/45 ZR 17 255/40 ZR 17	2.4 (34) – (–)	2.8 (40) 2.8 (40)	2.9 (41) – (–)	3.4 (48) 3.4 (48)

For touring models:

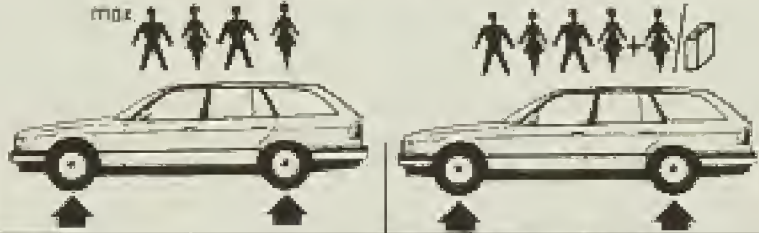
BMW model	Radial-ply tyres (tubeless)	max. 			
518i touring	205/65 R 15 94 H 225/60 R 15 96 H/V 225/55 R 16 95 V TD 230/55 R 390	2.0 (28)	2.2 (31)	2.3 (33)	2.8 (40)
	235/45 ZR 17 255/40 ZR 17	2.0 (28) – (–)	2.2 (31) 2.2 (31)	2.3 (33) – (–)	2.8 (40) 2.8 (40)
	205/65 R 15 94 Q/T/H M+S 225/60 R 15 96 Q/T/H M+S 225/55 R 16 95 Q/T/H M+S TD 230/55 R 390 95 H M+S	2.2 (31)	2.4 (34)	2.5 (36)	3.0 (43)

Spark plugs

Bosch F7 LDCR
NGK BKR 6 EK

Tyre pressures (continued)

For touring models (continued):



BMW model	Radial-ply tyres (tubeless)				
520i touring	205/65 R 15 94 V ¹⁾ 225/60 R 15 96 V 225/55 R 16 TD 230/55 ZR 390	2.1 (30)	2.4 (34)	2.5 (36)	3.0 (43)
	235/45 ZR 17 255/40 ZR 17	2.1 (30) – (–)	2.4 (34) 2.4 (34)	2.5 (36) – (–)	3.0 (43) 3.0 (43)
	235/45 ZR 17 ²⁾ 255/40 ZR 17 ²⁾	2.3 (33) – (–)	2.6 (37) 2.6 (37)	2.7 (38) – (–)	3.2 (46) 3.2 (46)
	205/65 R 15 94 Q/T/H M+S 225/60 R 15 96 Q/T/H M+S 225/55 R 16 95 Q/T/H M+S TD 230/55 R 390 95 H M+S	2.3 (33)	2.6 (37)	2.7 (38)	3.2 (46)
525iX touring	225/55 R 16 95 V	2.1 (30)	2.4 (34)	2.5 (36)	3.0 (43)
	225/55 R 16 95 Q/T/H M+S	2.3 (33)	2.6 (37)	2.7 (38)	3.2 (46)
530i touring 540i touring	TD 230/55 ZR 390 225/60 ZR 15 225/55 ZR 16 205/65 R 15 94 Q/T M+S 225/60 R 15 96 Q/T/H M+S 225/55 R 16 95 Q/T/H M+S TD 230/55 R 390, 95 H M+S	530i: 2.1 (30) 540i: 2.3 (33)	530i: 2.6 (37) 540i: 2.8 (40)	530i: 2.5 (36) 540i: 2.8 (40)	530i: 3.2 (46) 540i: 3.3 (47)
	235/45 ZR 17 255/40 ZR 17	2.3 (33) – (–)	2.8 (40) 2.8 (40)	2.8 (40) – (–)	3.3 (47) 3.3 (47)
540i touring	235/45 ZR 17 255/40 ZR 17	2.5 (36) – (–)	3.0 (43) 3.0 (43)	2.9 (41) – (–)	3.4 (48) 3.4 (48)

When changing wheels or in the event of tyre failure:

If your BMW's wheels are secured with thief-proof (lockable) studs, always carry the adapter or key in the car's toolkit (BMW touring: adapter is under front load-area flap). This makes it easier for the workshop or breakdown service to perform the necessary work with no loss of time. See also Page 98.

¹⁾ This tyre size not for BMW 525i touring, or for BMW 520i touring and 525td/tds touring with self-levelling suspension. BMW 525td touring: speed code letter 'H' is permissible instead of 'V' on summer tyres.

²⁾These values apply to the BMW 520i and BMW 525tds touring (with self-levelling suspension in each case), and to the BMW 525i touring.

When towing a trailer, only the tyre pressure values for the heavier load category are to be used.

These tyre pressure values apply to the makes of tyre recommended by BMW and known to the BMW Service organisation. If other makes of tyre are fitted, higher pressures may be needed.

There is a tyre pressure information label on the driver's door post; this will show any different type pressures applying to non-standard vehicles.

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